ZOO PUBLISHING

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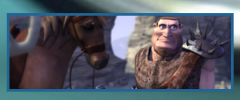
3D Total

BAD TO THE BONE

Kosta Atansov, the Bulgarian Artist who can't change light bulbs, but can draw photorealistic ones with a ballpoint pen...

ARTICLES
Moutons, Next Generation Games - High moon Studios & Digging for Details



INTERVIEWS
Marti Miller, Robert Kuczera & Kosta Atanasov

GALLERIES
Featuring Benjamin Brosdau, Ilan Cohen, Rodrigo Lloret & More...

MAKING OF'S
'Vespa', 'Mazda CX-9' & 'Ready to Fly'

TUTORIALS
Tuc Tuc, Photography and the Art of Composition & Complete Guide to Lighting

Editorial

Welcome to another huge edition of 3DCreative Magazine. Focusing on the creative and artistic side of 3D CG, as we do, we hope that you are enjoying our current series on the art of composition. We felt that with all the new technology appearing, such as in Next Gen Games (series in this month's mag) and in 3D in general, it was time for a return to the traditional artistic values and concepts. We feel that sometimes artists can get all too caught up in the technology and sometimes basic concepts and principles are forgotten. Take a look and let us know what you think (Contacts on Page 124). Also, if you think you need the practice, or if you are up for winning a few great prizes, check out the 'Stylized Animal Challenge', a monthly challenge on the www.threedy.com (for the 3D Challenge) and www.conceptart.org forums (for the 2D Challenge). It's a great way to learn from others and at the same time show us what you have to offer. Each month we choose a different animal for you guys to create your own version of. So far we have had 2 competitions finish (Highland cow & Octopus, Page 59), a third is in the voting stage (Camels) and the fourth (Eagle) has just begun. Great prizes to be won include CDs, DVDs and books, all kindly donated by www.3dtotal.com. To be honest, some of the entries have been so good we have decided to feature them in our own galleries! Anyway, enough from me, enjoy this month's offerings and don't forget to let us know what you think about the mags.

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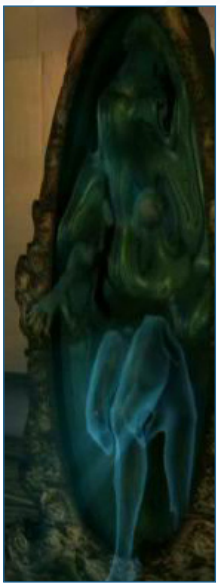
Contents

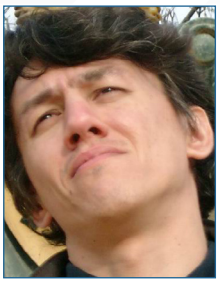
CONTRIBUTING ARTISTS

Every month, many creatives and artists around the world contribute to 3DCreative Magazine. Here you can read all about them. If you would like to be a part of 3DCreative or 2DArtist Magazines, please contact ben@zoopublishing

Tuc Tuc Tutorial Artists. These wonderful people are responsible for translating our 3DSMax content for Cinema 4D, Lightwave, Maya & Softimage XSi. Most of them have been with us since the Joan of Arc series, and all worked on the highly popular Swordmaster Series.



BOGDAN HORDUNA



3D VFX artist Iasi, Romania. I started back in 1999 with 3D Studio Max but in 2000 trained in Maya. I've been a modeller and texturer for few 3D animated movies & two games. Also a modeller, dynamics & particles, lights & render supervisor for many commercials, musical video clips and industrial presentations.

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LUCIANO IURINO

I started back in 1994 with 3DStudio on MS-Dos as modeler/ texture artist. In 2001 I co-founded PM Studios & I still work for it as Lead 3D Artist. Recently we have developed the videogame "ETROM – The Astral Essence". I also work as freelancer for different magazines, web-portals, gfx & videogame companies. Recently I left the 3dsmax environment to move on XSI.

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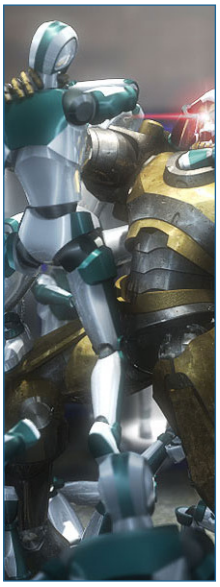

GIUSEPPE GUGLIELMUCCI

Freelance 3D modeler / Animator. I began to use computers with the epoch of the vic20 & Cinema 4D was my 1st 3D software. I started working in the field of CG in 1999 in commercial design. In 2003 I worked on ETROM - The Astral Essence, RPG video-game for PC, developed by PMstudios. Currently I'm hoping to work in the video-games industry & develop my own game.

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NIKI BARTUCCI

Freelance 3D modeler, Italy. I started working in the field of Computer Graphics in 2000 as an illustrator & web designer. In 2003 I started using 3D software such as C4D & later 3dSMax. That year I worked on ETROM - The Astral Essence, RPG video-game for PC, developed by PMstudios. Currently I'm a freelancer & specialise in commercials. I especially like RPG & RTS video-games.

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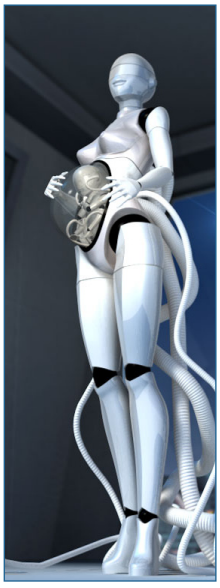

ROMAN KESSLER

Freelance 3D Artist, Germany. In 1993 I made my 1st 3D model. I used a shareware 3D software for DOS that was very limited. But I got addicted & started with Lightwave in 1997. Since 2005 I work professionally as Freelancer. I like all 3D tasks quite equally, with a little preference to modelling and texturing. Besides creating client work, I try to get my personal animation projects done.

www.dough-cgi.de

MARTI MILLER

Is a self-taught 3D Modeller, from Estonia. He started around six years ago with 3D Studio Max 2.5. Marti models mostly for fun, but sometimes also does freelance work for local advertising companies, as well.

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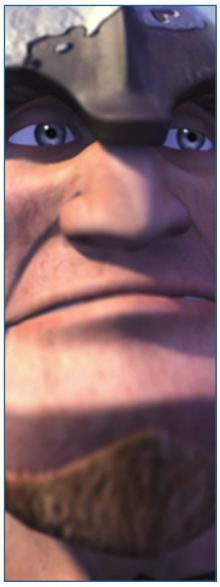

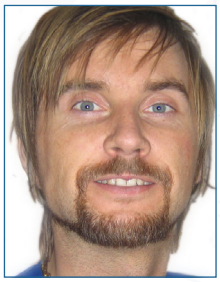

ROBERT KUCZERA

Is a 3D Character Animator, Freelancer, in Munich, Germany. He started working in 3D in 1995 with Alias Power Animator. After some years he became interested in learning more about film making, and so studied at the filmschool, Filmakademie Baden Württemberg. Right now he's working on his 5th 3D animated feature film called "Dragon Hunters", at Trixter in Munich, as an Animator.

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ARTECNL

(a.k.a.) Eugenio García Villarreal, is a Freelance CG Illustrator, in Monterrey, Mexico. He started in 3D two years ago with LightWave 3S 7.5 - self-taught. He graduated as a Graphic Designer from the Facultad de Artes Visuales U.A.N.L., and hopes to soon get a job in the illustration business.

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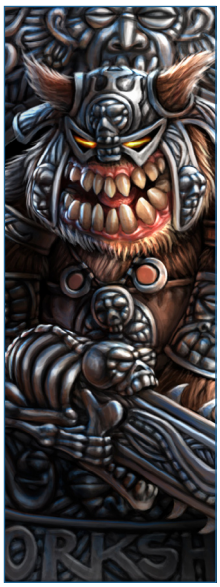

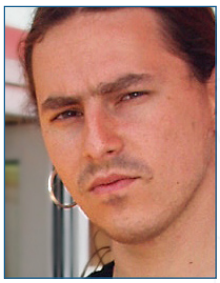

KOSTA ATANASOV

Is a Freelance Artist who has worked on many game development projects, covering every aspect of art creation, from concept art, modelling, texturing, rigging and animation, to the renaming of a long, boring series of images. He's no longer doing that last part since the world has moved on from 2D to next gen, and has become a better place to live.

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MARIN LOO

Is a 3D student, in NSW Australia. She started using 3D Max in October 2005 and has been working as a Business/Systems Analyst full-time for a few years. In her spare time she tries to practice as much 3D as she can, as well as traditional drawing and painting. She hopes to break into the 3D industry soon after graduation.

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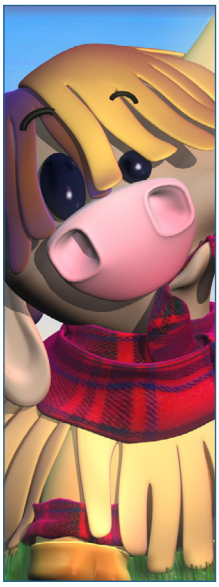

CETIN TUKER

Graduated with a BA in Architecture in '92, & completed his MA in '96. Started in 3D in '91 whilst studying at METU & began teaching 3D in '94. He joined AMBUSH – PUSU as Character Designer & Animator, until 2004 when the project was finished. He now teaches 3D Animation and Motion Graphics & is studying for his thesis. His first book was published in February 2007.

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Praveen VS

Is a 3D Modeller and Animator, in Kerala, India. He uses 3DSMax and ZBrush for modelling, Vray & Maxwell for rendering, and After Effects for motions and titles – all self-taught. His ambition is to work as a 3D Modeller for games.

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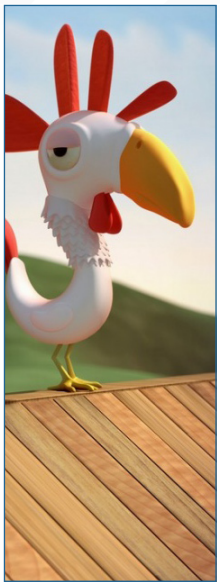

Cesar Alejandro Montero Orozco

Is a 3D Artist & Computer Engineer, in Zapopan Jalisco, Mexico. He believes in the balance in life, and all of its aspects. He appreciates his health above anything else. His career goal is to tell compelling stories using CG in feature films.

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Jure Zagoricnik

Is a Modeller/Texturer and Freelancer, in Kamnik, Slovenia. 3Dtotal and 3DBuzz helped him to progress quickly. When the basics were covered he just experimented - a lot. He works full-time for a web company and as a 3D Freelancer by night. So far his biggest project was working for Streamline Studios on Saint's Row for Xbox 360.

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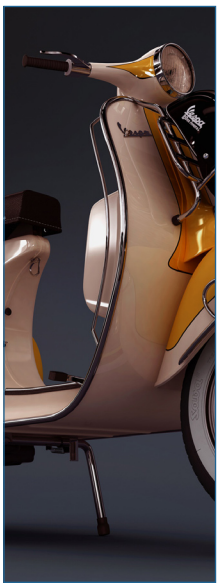

Michael Seidl

Is a 3D Artist and Freelancer, in Vienna, Austria. His artistic career started 6 years ago when his friends asked him to do an animation for their band. He started looking around for tools that could handle my needs, and after some research finally chose 3DS Max. Since then, he has worked with 3DS Max doing all kinds of freelance work, from architectural visualisations to car commercials.

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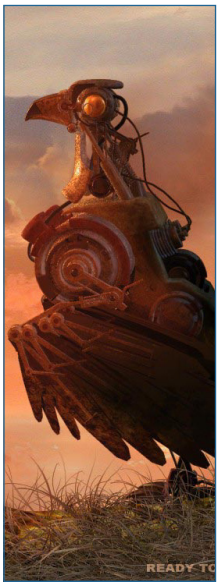
Adrian Baluta

Is a VFX Artist. He has been working in the animation industry for over 14 years; in the 3D arena for 5 years and as a Matte Painter for a year now. He learnt Maya in the studio and has used it ever since. At the moment, he's working on two short films, called "Dream Forest" and "Crossing". He looks forward to moving on to work on his next short called "I'm here daddy".

a_baluta@yahoo.com



Would you like to Contribute to 3DCreative or 2DArtist Magazine?

We are always looking for tutorial artists, gallery submissions, potential interviewees, making of writers and more. For more information, send a link to your work here: warin@zoopublishing.com

totalTextures

v4: r2

Humans & Creatures

The Original Total Texture collection was created in 2001, utilising the best methods and technology of the time. Since then, techniques and technology have both moved forward, and here at 3DTotal we felt that although the original collection is still widely used and highly regarded among artists and studios of all calibers, it was time for an update...

This enormously improved version of the original texture collection now contains 272 individual Materials, comprising of over 938 individual, hand crafted texture maps. Every Texture now has its own unique colour map, bump map. There is also over 50 new alpha and 100 new specular maps.

What's new?
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31 Creature Eyes
11 Creature Furs
2 Creature Miscellaneous
6 Creature Scales
14 Creature Skin (Body)
27 Creature Skin (Facial)
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16 Human Eyes
2 Human Hair
12 Human Misc (Body)
24 Human Misc (Facial)
47 Human Skin (Abnormal)
2 Human Skin (Old)
13 Human Skin (Tatoo)
34 Human Skin (Young)
15 Human Skin (Reference)

15 Collections of amazing Textures

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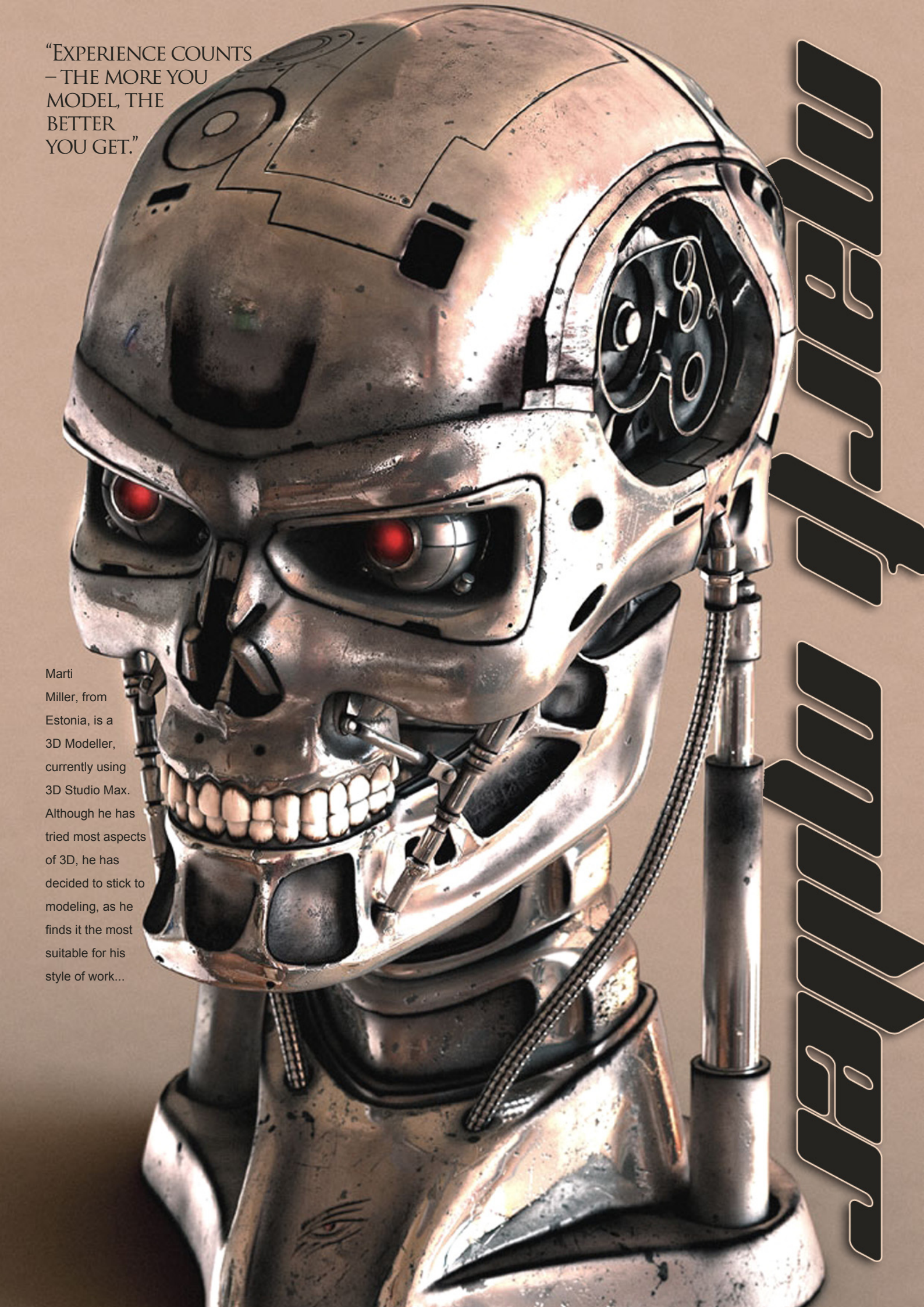
Profile

"Experience counts – the more you model, the better you get."



Marti Miller, from Estonia, is a 3D Modeller, currently using 3D Studio Max. Although he has tried most aspects of 3D, he has decided to stick to modeling, as he finds it the most suitable for his style of work...

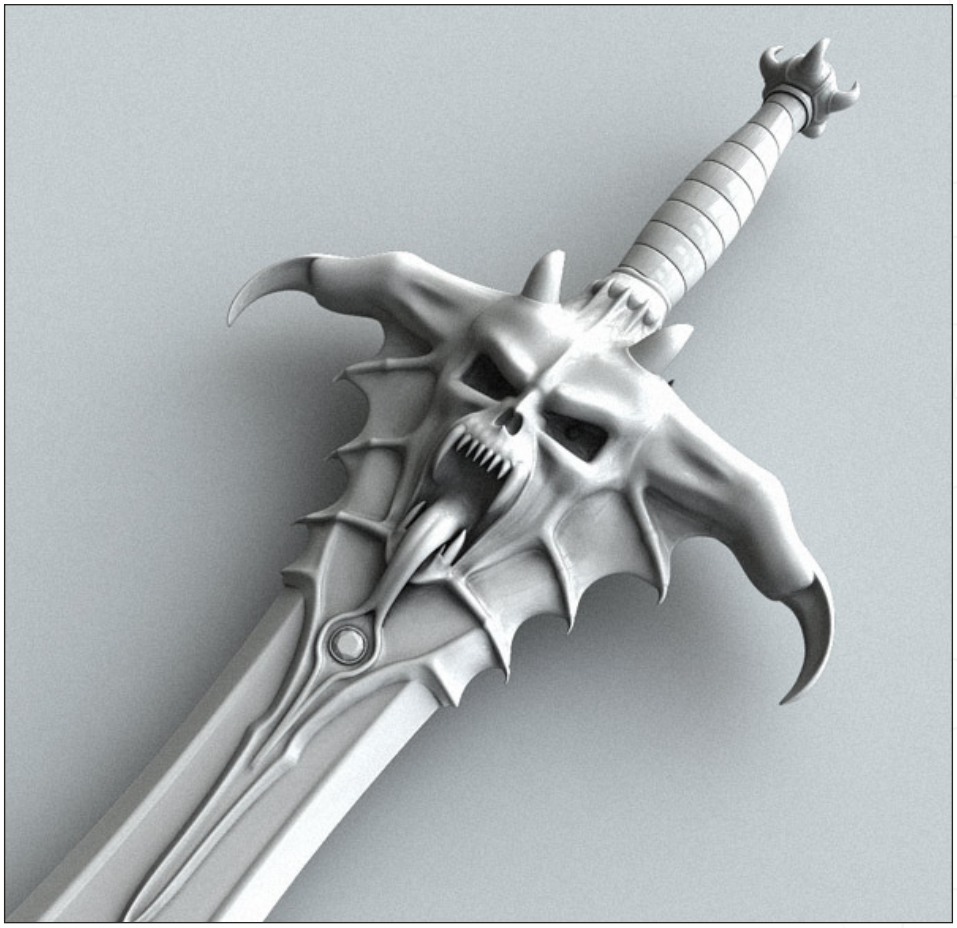
marti miller

Hi, thanks for talking to us. How did you get started in 3D?

Well, about 6 years ago a friend of mine was working with a 2D software package; I don't remember which one exactly, but I think it was Corel Draw. So, one day he wanted to start working with 3D graphics, and purchased 3D Studio Max 2.5. Since English wasn't one of his strong points, he wanted me to translate a couple of 3DS Max tutorials for him. The first one was some sort of canyon modelling/setup tutorial. Once we got it over with, I was so fascinated by the whole concept of 3D modelling/rendering that I decided to dig a little deeper into it. Before that I had not even heard about 3D Studio Max or any other 3D package. So that's how it all started...

You are from Estonia, what sort of 3D industry do you have there?

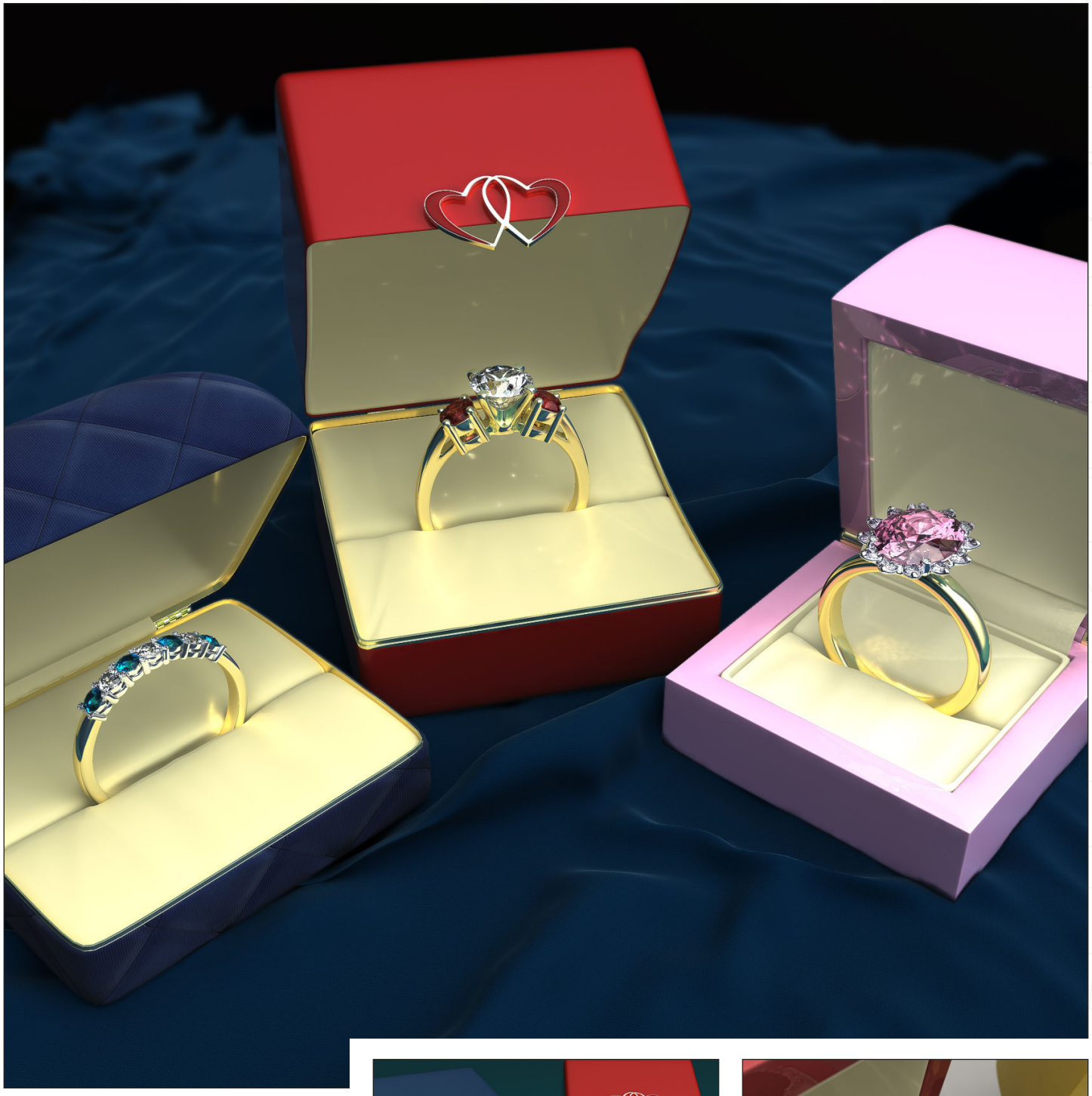
There isn't anything you could call a "3D industry", because 3D is used quite rarely over here. Most commonly 3D is used by advertising companies and architects, but it is developing. More and more advertisement TV clips are done using 3D now and companies employ



3D graphics for product renderings, interior rendering/design, and so on.

Do you have an ambition to change the industry in Estonia? Or do you see yourself moving to another country to continue your career?

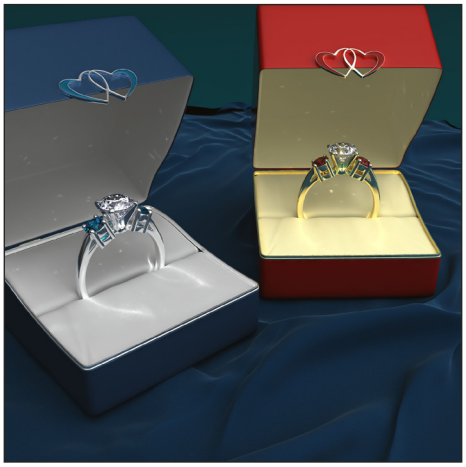
I think neither. Firstly, for me, 3D is mostly a hobby, because I believe working in the industry eventually kills the passion. Besides, I've read about burned-out 3D artists, who were employed in the industry (mainly gaming), complaining about deadlines, very long working hours and so on. So it does not seem that tempting to me anymore. If I model and only model for myself, I'm concerned about one thing only - quality - not the time I spent doing it and



how to make it quicker. Secondly, I guess I am too attached to my country, because I have never thought about leaving it. Maybe in the future though...

Which part of the virtual 3D creation process really gets you going?

It depends. Projects must be interesting/ involving - a little challenging or something I haven't done before - in order to get me going.



What inspires your 3D creations?

There is no “recipe” for that. I can get inspired by a movie or something I see on the Internet, and so on. But usually, I tend to plan my projects in advance. I have several things in my mind that I want to model, I’m just waiting for the right time. So, I try not to get inspired too often, because it would mean I’d never get them all done! It’s kind of my “to do list”, if you like.

I think you will be mostly recognised for the Terminator Cyborg Skull in your portfolio. It has an incredible level of detail!

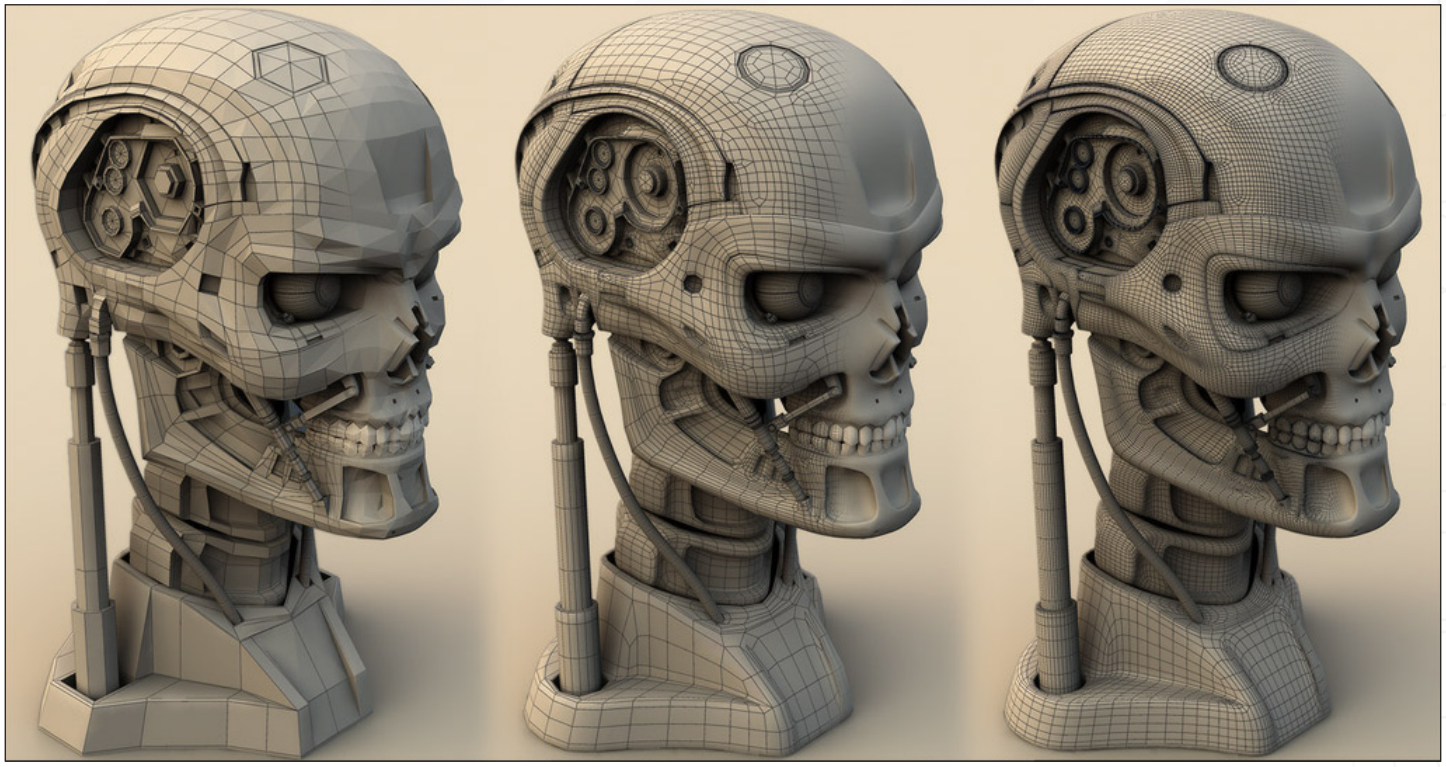
Well, the Terminator's head is another story. First of all, I like the movie, but mostly the cyborg itself. For me it's like a masterpiece of robotic, humanoid-type creatures. That is pretty much the main reason that I was so inspired by it. The second reason was that I wanted to create most realistic T-800 head on the Net. I'm not sure if I achieved that goal or not, but I did the best that I could. It's not an exact replica though – I made it look a little meaner. As for the level of detail, I'm sort of a fan of detailed modelling. I like to do my models as detailed as possible, so I don't have to worry about how they render from afar or close-up. Besides, it's fun too!

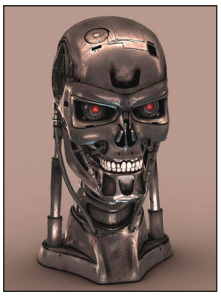
Does the detail ever restrict the amount of work you get done?

If I model my own projects it doesn't play a major role. Usually I set my goals before (or in the process of) the modelling. So I model until I achieve the desired result. Of course, I can't push the detail level indefinitely, because of the computer hardware; too detailed models tend to turn modelling into a nightmare, but thankfully computers are getting more and more powerful these days.

What would be a dream project for you?

Probably one or two ultra-detailed models - realistic ones. Maybe even a short movie project, in collaboration with a few colleagues. But more specifically, I'm not sure. I should think that a medieval, fantasy scene would be quite fun to do!





Do you have one piece advice for any aspiring artists who may be from countries without a big 3D industry?

Start with the basics. If you can, try different 3D software out before you buy them - try them. Complete basic tutorials, choose which software suits you the best and start modelling. Set yourself goals of who you want to be; a high-res 3D Artist, a Game Artist, a Texturer, a Level-Designer, an Animator, and so on - or all of them put together if you like. If you get experienced enough you can start your own company. Experience counts – the more you model, the better you get.

Marti Miller

For more work by this artist please visit:

http://mmarti.deviantart.com

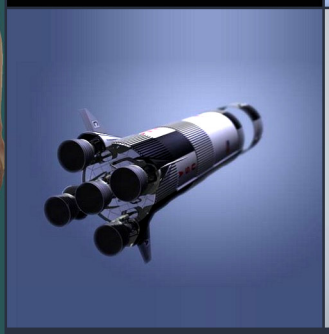
Or contact them at:

mmarti@hot.ee

Interviewed by: Ben Barnes





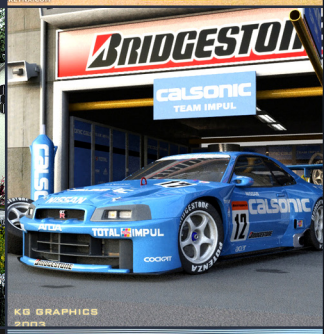



3d02.COM
The Finest 3d Model Store

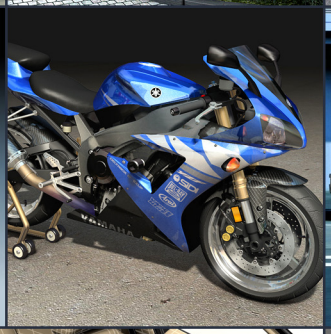
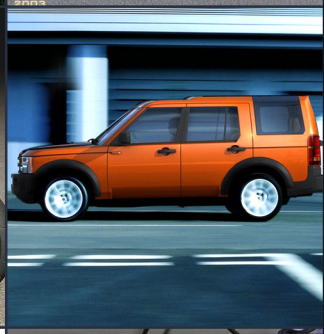
3d02.com. Commonly known as a high quality 3d model store, one of the premier stores of digital assets offering ready to use CG 3d models, and an open platform allowing artists to publish and sell their 3d models online

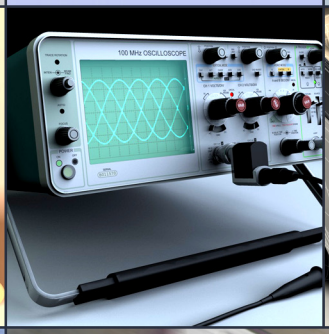




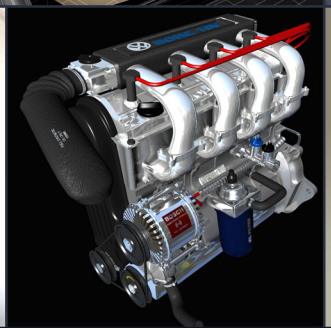







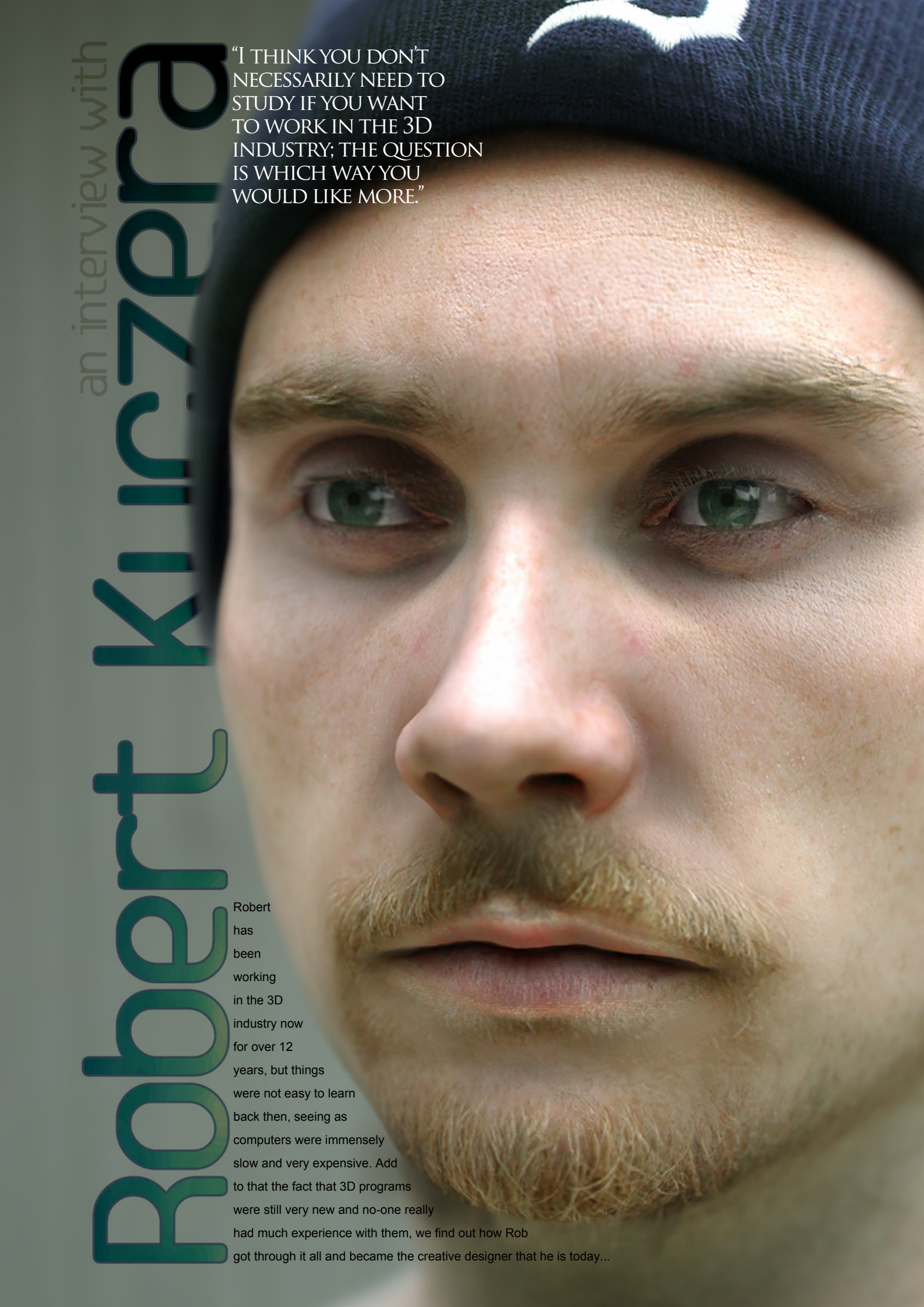



an interview with

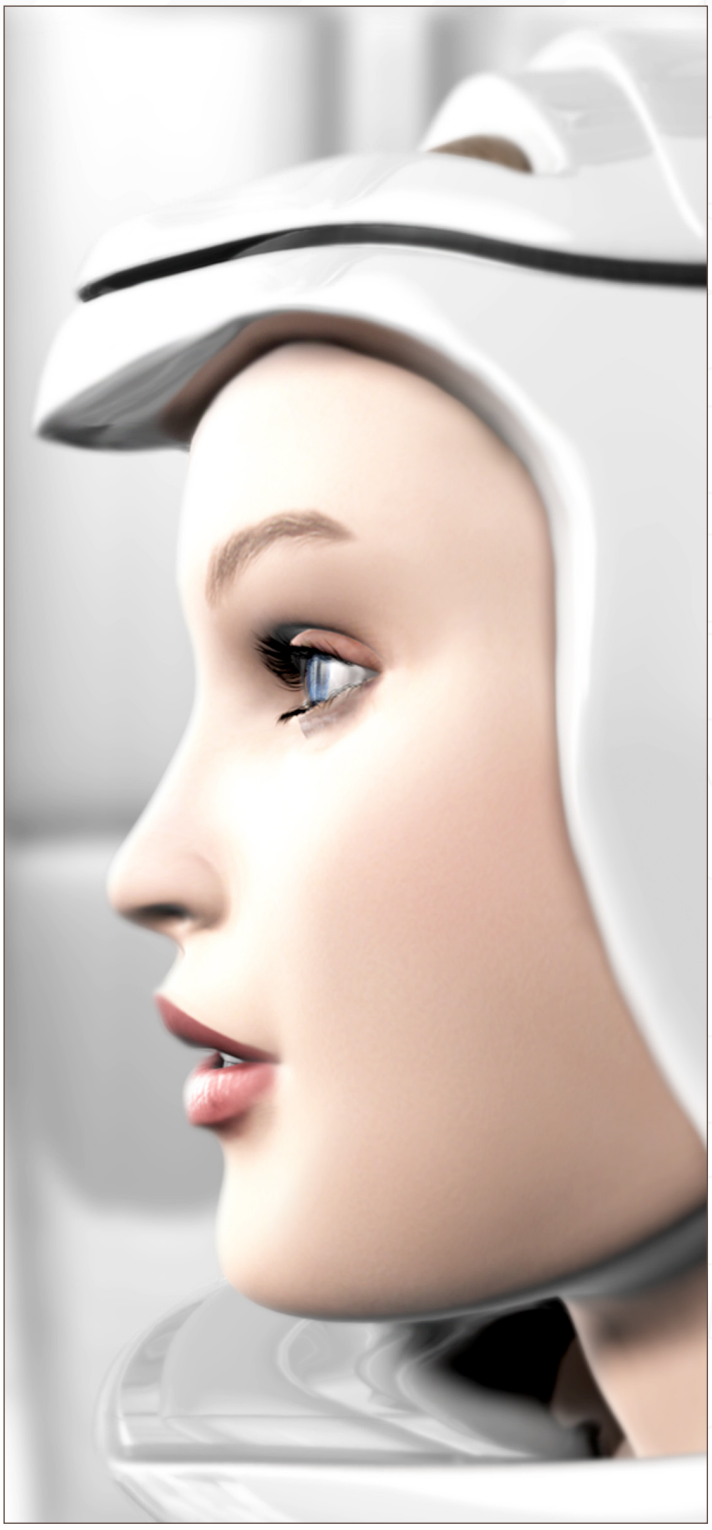
Robert Kurzera

"I think you don't necessarily need to study if you want to work in the 3D industry; the question is which way you would like more."



Robert has been working in the 3D industry now for over 12 years, but things were not easy to learn back then, seeing as computers were immensely slow and very expensive. Add to that the fact that 3D programs were still very new and no-one really had much experience with them, we find out how Rob got through it all and became the creative designer that he is today...

Robert Kuczera



Hello Robert, could you tell us a little bit about yourself please and also what sparked your interest in 3D? Hi, I am a healthy young German man at the age of 33 years, and I've been working in the 3D industry since 1995. I was inspired, and I think everybody else probably was, by the short films that Pixar created. I was fascinated with the possibility of creating my very own 3D world, as well as movies. I needed to know how to go about doing this, and if it I could to do it here in Germany. As it happened, I had a friend who was working in the industry and showed me that it was possible. At the beginning I was interested in all areas of 3D and started to accumulate as much information as I could get. In 1995 it was not at all easy creating 3D, as the PCs where very slow and expensive, with almost no professional package good enough to work with. So I started an internship at a company called Tevox. They were doing real-time animation, on Silicon Graphics, Inc. workstations, each worth about 40,000 Euros, working with 3D software costing another 20,000 Euros... You see, one work place was very expensive! But not only that, the hard and software made it difficult to start in 3D, and also the knowledge base was not very big. There were almost no tutorials on the Internet, no learning DVDs, no tutorial books, and almost no 3D schools

around, so the only way you could learn was from your work mates. I think that somebody who starts nowadays can learn in a much shorter time than somebody who started 10 years ago. It is all about how fast you can get your knowledge. I remember that some artists would not tell you their "tricks" because they were afraid of you getting better than them. So knowledge was your investment. Today, all that knowledge is there, you just have to use it. Nowadays it is even more about your skills and your talent.

You graduated from the Film Academy in Baden-Wuerttemberg, and then went on to work on some big projects. How beneficial do you think going to an Academy like this has over learning and teaching yourself? Well I can't tell you 100% how it is to go study and then try to find work, because I was already working for 3 years before I decided to study, and I also worked alongside my studies. I think you don't necessarily need to study if you want to work in the 3D industry; the question is which way you would like more. If you start with an internship it will take you probably 6 months before you start working as a Junior. The positive in this, is that you get paid for doing it and you also get to learn stuff. But depending on the company it can really make the difference with the quality of work and what you have to do everyday. It can all get very boring and after some time you will learn very little, even though there is still plenty to learn within your field. Maybe doing modelling and lighting for industry or architectural projects for 4 years, at some point you will get really good at it, but there are so many more fields to discover. Maybe you want to do your own stuff and then studying is the best way. But still, if you don't study you can take a break from working and create your own stuff. I was talking to so many CG Artists who didn't study and they all told me that they would like to make a short film but they couldn't because they have to work, and after work it would be too much effort. So I always ask them why they don't take a few months off to make their personal stuff? I think that they're afraid of not finding work again after their free time. It's different if you start to study at a film

school, animation school or 3D school, because there you don't get money for your work, you have to pay for it yourself. If it is a good school you can learn a lot in different fields. You can experiment with different styles and work with people you like - you decide, it is your project. But if you study for 4 years and then start to work, you are "just" a student who just finished school. Whereas, if you start with an internship you have, after 4 years, already 4 years of production experience. You know exactly what you are doing and you will probably earn more money. But you don't have the experience of making your own movies or projects. So it is a personal question everybody has to answer for themselves. Would you like more freedom and

have the money to finance your studies? Then study. But if you want to get money, instead of spending it, then try starting out in an internship.

Getting to work on Harry Potter 3 must have been a big break for you, could you tell us how the job came to be? I have to admit that at the time I got the job offer, I was not aware that the project was as big as it was, or for that matter, so important for my career. At the time I had the offer from Framestore. The Mill was also interested in me as, everybody knows, they mainly do commercials and are one of the best at it. But because I didn't have that much experience in working on feature films, I decided to work on Potter. But both companies are great. So I decided to travel to London and tried to get some interviews for one of the postproduction companies. Before that I tried to get in touch by email; some answered, some didn't. It's very helpful if you know

somebody within the company who you can forward your reel or even put in a word and give a good word on your behalf. Knowing a lot of people in the industry is very, very helpful and the more you know the simpler it gets.

You mentioned that you didn't have much experience in feature films. Did it feel like you where jumping in at the deep end when you were offered the position working at Framestore? Well, not really. I think there isn't a lot of difference between working on features or on commercials. In features you have more time to make your shot really good; your work is more specialist and the period of time you are on a project is longer and the organisation structure is much bigger, and there are more people coordinating other people. I think it was much more difficult going to a new country and working there for the first time. Everything is so new and somehow very stressful; having to find a place to sleep, working in a new environment, living in a new environment, and even within a new culture - everything. It was interesting to see how a company like Framestore worked, and how it was to be part of a machine like that. But what's also interesting to see, is that the big companies are also cooking with water (which is a German expression for saying that "there is no magic, even though the results are so good"). It is all about money, time and people.

Could you tell us what are you currently working on at the moment? Well, I can't tell you much as I'm still working on it and I'm not allowed to say a lot, but I can tell you this: the movie is called "Lizzi und der wilde Kaiser", and it is a CGI movie from the Director, Bullie Herbich, who was the Director of two of the most successful feature films in Germany. These movies were called "Schuh des Manituh" and "Traumschif Surprise". There is a trailer online so anybody who is interested can take a look, but it is a very, very funny movie. There will be three movies out next year that I have worked on; Happily Never After", "Donkey Xote", and "Lizzi und der wilde Kaiser", and I have worked on them all in Germany. Travelling around for sometime is a great experience, but after a while it gets very strenuous. You always have to get to know new people, make new friends, and adjust to all the new working environments and places that you live in, as well as the new cultures. It's very stressful and apart from that if you're not careful you can lose a lot of your social contacts. I met some animators who were somewhat older and they were travelling from work to work and they were very lonely. For me, I don't want that. It gets more difficult if you have a girlfriend as well because, for me, I want to be with her - a relationship over distance is not an option over time, so either she comes and has to find work, after getting a work visa for that country, or I stay with her in Germany.

With working as a Character Modeller for Ambient Entertainment, as well as other industry projects, how did you find the time to produce your short, the "Dragon Slayer"? I was always working on my private projects alongside my paid work, but somehow you have to earn money for a living. So working here on a commercial for 2 weeks, there for 3 weeks, on a feature for 3 months and then between that working on a short film - is fine! But don't forget, people who help me out can also help me out whilst I am working.

With having produced your own animation, "Dragon Slayer", what advice would you give to other artists that are thinking on embarking on this adventure? Well, what is the reason you want to make a movie? Do you want to tell other people something that you have in mind, and you think it is important enough that the whole world would want to see it? Or, do you want to make a small animation piece to show off your skills and get some attention from companies to help find a good job. Or, do you want to show what skills you have and get some respect and praise from the community? Is your idea something that can be shown at film festivals, more art-like, or is it more the commercial kind of work? Depending on the question, I would plan my movie. I would either put more work into the story development or into your special skills, like animation. If you want to show your animation skills, you probably don't need any fancy renderings or visual effects, so don't waste time on that. But try not to make it any longer than 3 minutes. I think in general you need a lot of discipline; the best way to not lose your motivation is by planning the movie with a good story. Make a time schedule and try to hit the deadlines. I know this doesn't sound like a lot of fun, but discipline is the best way to finish the movie on time. With a good story, a maximum of 3 minutes is perfect for a short film. Don't make the same mistakes as I did; don't make it to long. Have a good overview over the production time, so that it wont' be so easy to lose focus. By finding the story, concentrate on what you want to show - any special skills, animation, modelling - to make a good short film. I think in general, a good joke suits the needs of a 3 minute short film best. Shorter is even better as it is less work and the audience doesn't lose focus. Only use a few characters as this will help you to focus on what is important.

If you could name one artist that has been a major influence in your career, who would it be? There is so much inspiration out there, so many great artists that can be found on the Internet, I just can't really say which one of them has had the most influence - there are just so many to name across the whole world.

You seem to be a very busy man. What sorts of things do you enjoy doing away from the computer screen? I like to be with my girlfriend and my friends; eating good food, doing sports, going for walks when the weather is nice, relaxing and enjoying life as much as possible. It is a shame that we don't always know and appreciate how good our life is - especially people in Europe. However, I try to stay aware of it as much as possible, when the small problems disappear and you can focus on what is really important in life. For me, to be healthy and to have good friends is most important, and sure, good work.

Well it has been a pleasure talking with you. One more question before we finish. What has been the most memorable moment in your 3D career? I think it's always when I arrive at a new company and get to know the people there - the first day. After a while I get with the groove, but it is more of a feeling than one moment exactly. Oh, there was one moment when I was talking at the 3D Festival in Copenhagen; it was very exciting to speak in front of many people... Ah, and it was an amazing feeling right at the very beginning of 3D, making my first camera flight and creating my very own 3D stuff - very sweet.

ROBERT KUCZERA

For more work by this artist please visit:
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Interviewed by: Christopher Perrins

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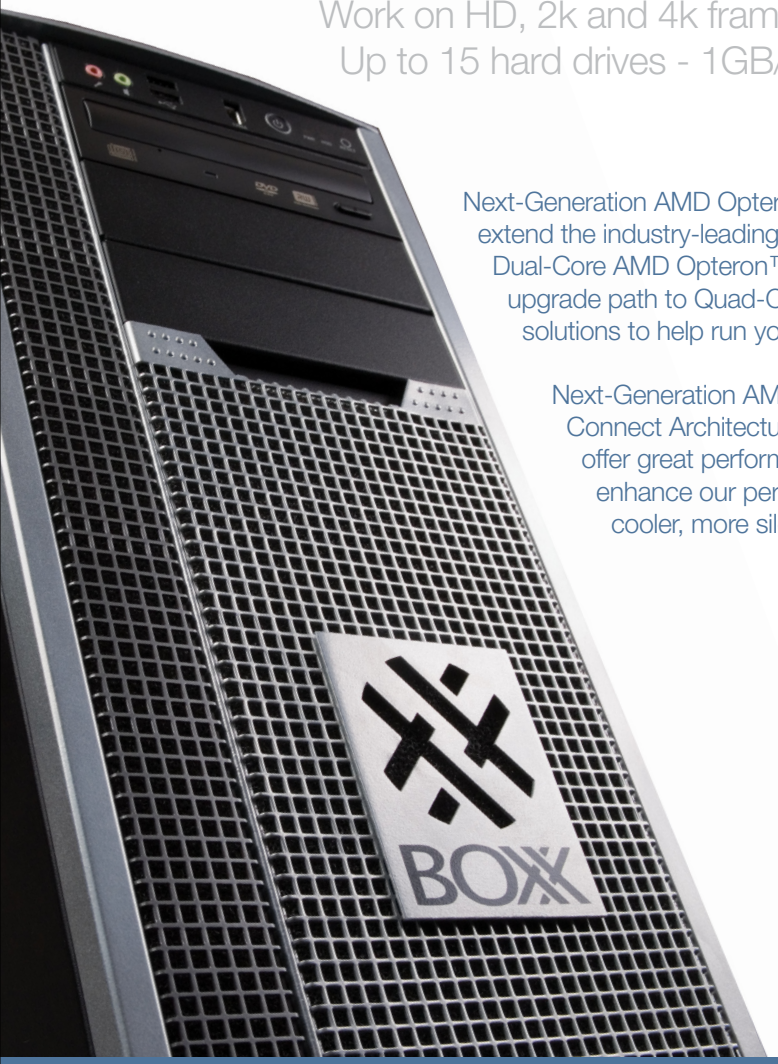

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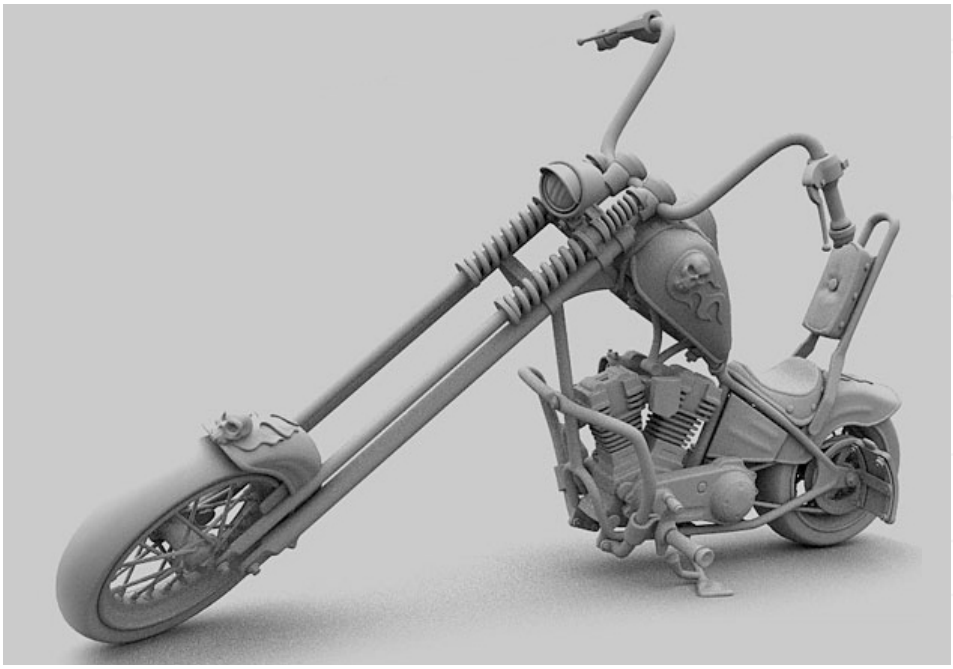
Interview With Kosta Atanasov

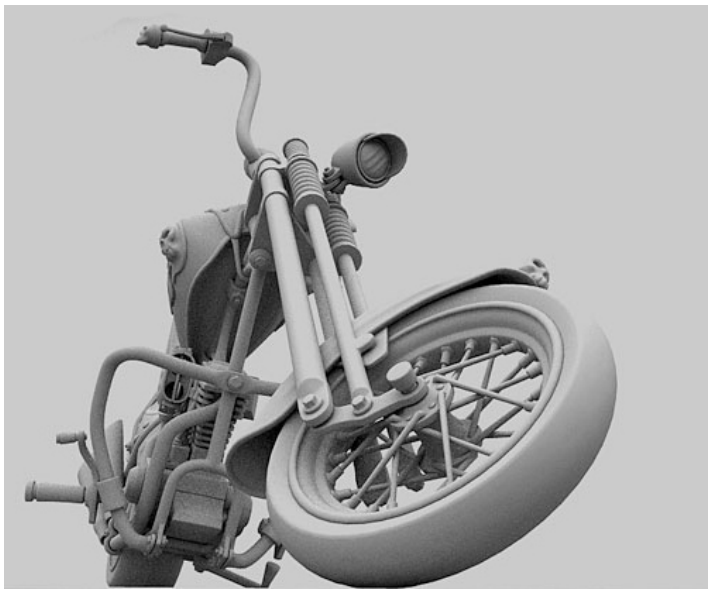
"You improve your skills with practice, and it makes no difference whether you use the tablet pen or the pencil."

Kosta first started out learning electronics, rather than art, but thankfully his teachers realised that it wasn't the right path for him. Recently, after 7 years, Kosta graduated from the New Bulgarian University...

Kosta Atanasov

Hi, thanks for talking to us, can you tell us a bit about yourself? My name is Kosta Atanasov, but most of my friends call me Jovi because of my addiction to a certain hard rock band. I'm 28, and I live and work in Bulgaria - a beautiful country in Eastern Europe. My initial education wasn't in art, but in electronics. Luckily, my teachers soon realised that the scientific path was clearly not for me, and just let me dream away whilst drawing doodles in class - a smart move, which helped greatly improve the world's overall electronics' reliability, I believe. The result was that, after graduating, I couldn't even replace a light bulb from the first attempt, though I could easily draw a photo-realistic one with a ball pen. I attended lots of art classes and after my marine military service was accepted in the New Bulgarian University, in Animation Direction, from which I most recently graduated. It took me a while - longer than intended (7 years, to be exact) - because I was involved in





various game-development projects that kept eating into my time. Nevertheless, it was worth it, because I think that the most important part of my education was working with my friends in the different game-development teams that I've been in. I hope I was as much help to them as they were to me. In my personal life I'm a very social person, I love motorcycles and adventures (pretty often they mix well), old school hard/heavy/progressive music, fiction books and movies, and above all painting and writing.

You are what I would describe as a CG 'all rounder' in 2D, 3D & animation. What made you learn all of these disciplines? I wasn't really aiming to learn them all at once, it just happened that way. In the early days of game development in Bulgaria we had to learn what we did on the fly – we had no Internet available - no forums, help or tutorials - so we had to improvise. We were like "Wow, what does this button do? CLICK". Luckily, nothing except Windows exploded (blue screen had a somewhat different meaning to me back then), and after enough clicks you just tended to memorise the function. Being a traditional artist, 2D just came naturally to me; it's nothing more than a different kind of brush or pencil.

You also practice your traditional art skills regularly (donkeys in particular). How important do you think it is for CG artists to keep in touch with traditional art forms?

Well, I do not think it's that essential, it really depends on the individual. You improve your skills with practice, and it makes no difference whether you use the tablet pen or the pencil. For me, traditional art is no more than a hobby now, but I believe we should all keep in touch with the real world as much as we can. People tend lately to get a little too involved with the digital world, and unlike the virtually nonexistent pixels, the smell of fresh paint all over the place, the stained clothes, walls, and enraged housekeeping mums are something tangible and real. Real life is fun - traditional art is fun - and it's where we digital artists should get our inspiration from.

You have worked on a few game-related projects; 'Knights of Honor', 'Games Workshop' etc. Is this an area of interest for you?

Absolutely. I started my career in the field of advertising, and was very happy when I moved into game development. I realised how much more creative freedom I was given. Making games is fascinating, and so much better than playing them, which is why I hardly have the time to play lately. Nevertheless, I have been playing in the past (heavy sigh), and my favourite games are the "Thief" series, "Knights of the Old Republic" and "Gothic". If I find a couple of (rainy) days off, I've already scheduled "Fahrenheit" next.

What has been your favourite project to date?

Definitely the one I'm working on right now, which is epic. I've always dreamt of working on a fantasy game. Fiction gives you much more freedom to interpret it, and thus it is a bigger challenge than real historic topics. Speaking of which, another favourite project I was involved in was the game "Knights Of Honor". At some point the tiny units had more than 15 different animations, each facing 18 directions, and the buildings had 5-6 states of destruction, most

of which are nearly impossible to see in-game. We've spent an enormous amount of time on every little detail of the artwork, and despite all the problems we have encountered developing it, I really think it was all worth it - it made a great game after all. Another project I'm working on currently is a short 3D movie – the working title is "Bad to the Bone", which is about a biker, who, underneath the black leather, spikes and sculls, is a really nice guy. I really love working on it and very much regret not having much free time for it lately.

Do you have a personal dream project you would like to work on?

Well, since Peter Jackson already made "Lord Of The Rings", I was thinking maybe I can direct "Conan", someday.

What does a regular day involve for you?

Usually, I get up somewhere around 10 AM, turn off the alarm clock that has been sounding since 8, brush my teeth and go back to sleep. I wake up again in an hour or two, get my sister to make me a coffee, while trying to un-weld my eyes' vertexes. The rest of the day I work, excluding the cases when the weather is good and my motorcycle is running (lately, both conditions are rarely met at the same time). When I'm really into what I'm doing, which is the case these days, I can end up working 'till 4-5 AM. Before I go to bed, I usually decide that tomorrow is the day I start a new way of life, with schedule and all, which will include a real day/night cycle + some free time when I get to do absolutely nothing, and wind up the alarm for 8 AM. I then put the clock as far from the bed as possible and go to sleep.

Do you have one piece of advice for any aspiring artists out there?

Yeah, actually I have three. There are a lot of personal and absolute truths you bump into whilst you live. Some of them are important, and the chance that they can make a difference to even one person, makes them something that you have no right NOT to share. One of the things is that you don't actually have to wait for inspiration. Most artists just sit around waiting for the creative black hole to go away, whilst banging their heads on the wall and complaining about it – it's very artistic and dramatic, but wrong. You don't have to rely on inspiration's choice whether to appear or not, but you must rather go look for it in your favourite books, movies, places, spending time with your friends or whatever. Inspiration comes with work – it's the fuel for your artistic V-twin, and though you have to push it sometimes - there's no stopping you, once you get it running. The second advice: believe in yourselves. Do not stop painting or modelling only because at some point you decide your work doesn't look good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Do you have one piece of advice for any aspiring artists out there?

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"Good visual references are very important. For me, nature is a never ending source of design inspiration!"

moutons

In this article we will see how Vivien, Arnaud and Simon created their original short film about fishing for underwater, swiming sheep...

moutons

Hello guys, could you give our readers a brief background about yourselves and how you all ended up working together on this animation?

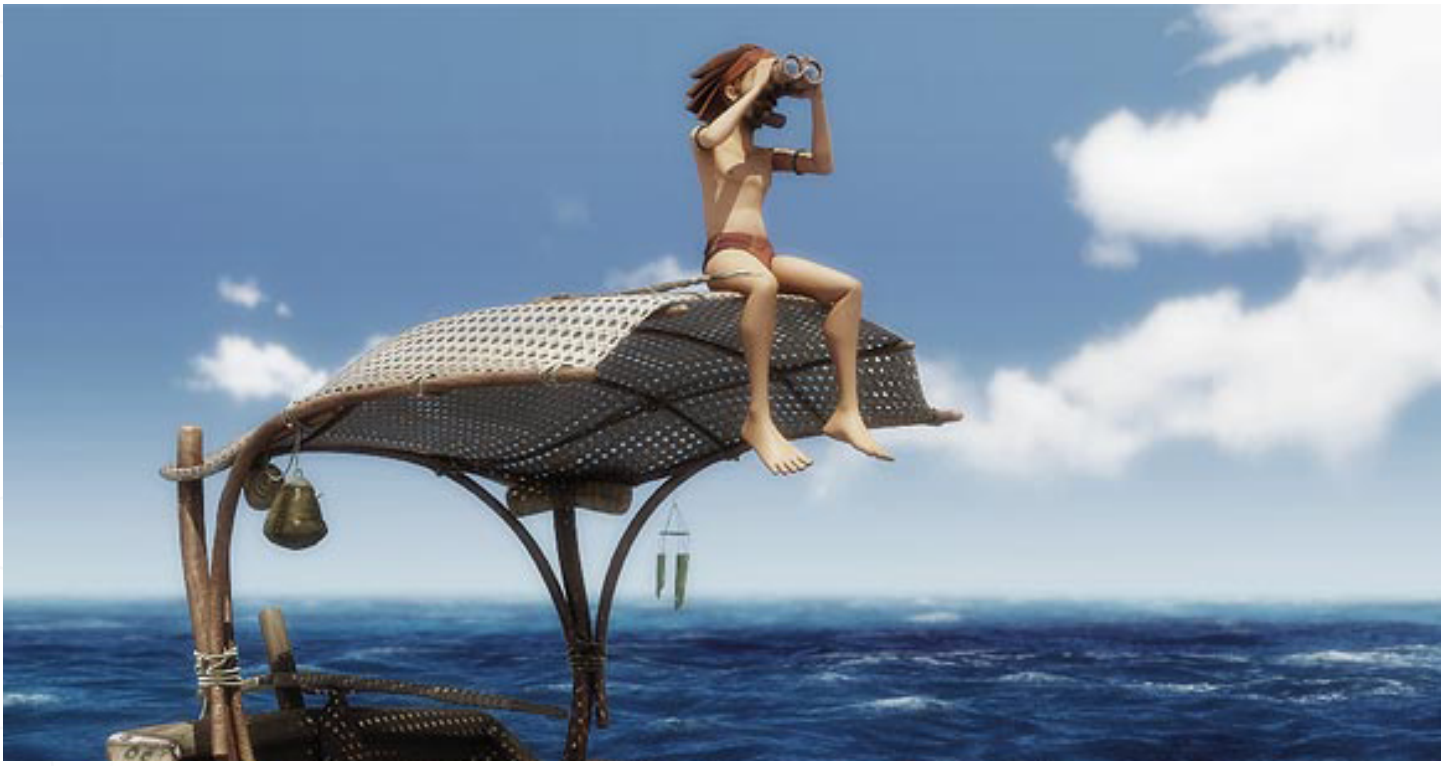
Vivien: I attended Art school for 4 years, and whilst I was there I learned how to use video and sound in projects for contemporary art and media. After the four years had past, I was tired by art concepts and by the constrains of having to think each time you wanted to create. As I wanted to do something more concrete I decided to integrate a CG school, and after passing several exams I was accepted at Supinfocom Arles. There I met Simon and Arnaud, and we got on. As we were very complementary we decided to form a team around Simon's original idea of the film: sheep living under water.

Arnaud: After a Bachelor of Arts Degree in Decorative Arts and a Visual Arts Degree at the ToulouseII Le Mirail University (France), I integrated Supinfocom (France). I love design, and I make digital art, illustration and concept art, therefore I created the design of this underwater world. We worked as a team on this project, as in a studio where each member has a well-defined task according to his desires, thus allowing the team to be efficient. My portion of the task was the design, modelling and texturing for the whole project. I ended up working on this animation because the original story interested me, it was very cool and "fresh", and was different to others' projects. Also, it was a challenge for me to create an underwater world.

Simon: I went to Supinfocom Arles after doing 3 years of visual communication, where I learnt web design. At Supinfocom, my story was selected to be realised, and Vivien and Arnaud who liked it decided to come on board with me to bring the story to life. We all liked this universe and wanted to give it the most originality we could.

How did you come up with such a brilliantly original idea for your animation?

Vivien: As I mentioned before, it was Simon who brought the original concept of the sheep living underwater and men fishing for them. After the creation of our team, we all developed the script and the story board.

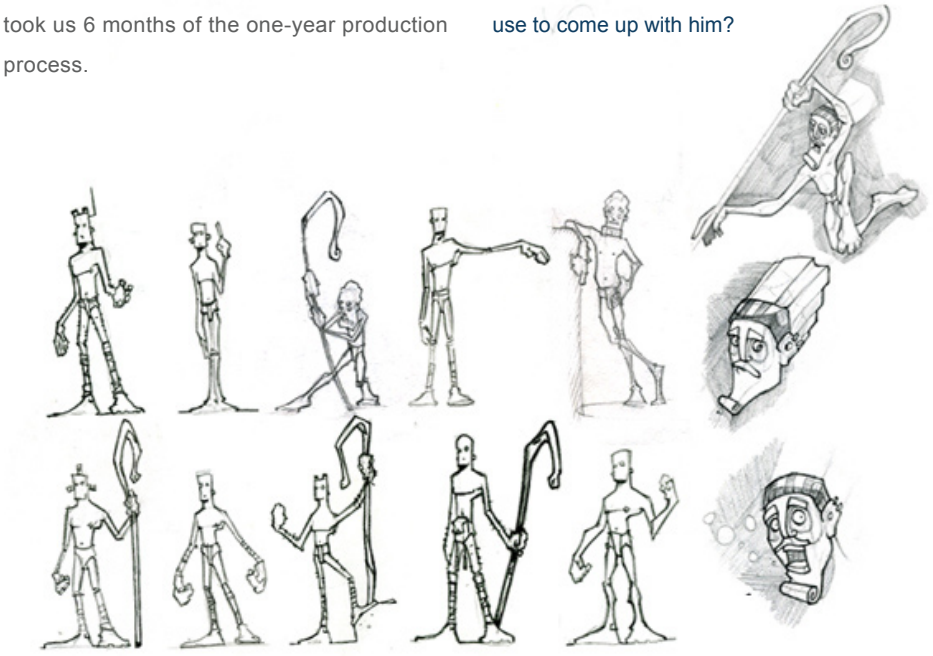


Simon: In France, there is an expression which says “des moutons”, when you speak about the foam which is on the top of waves. It comes from the resemblance between foam and sheep. Based on this expression, I got the idea of sea sheep and their whole society, then we made a team with Vivien and Arnaud and redefined the story. It was a hard thing to do and we made a lot of different stories before we found the final one. We worked on the storyboard and then the 3D layout. The conception of the movie took us 6 months of the one-year production process.

Was the one year an initial deadline set by you?

Simon: The one year deadline was the deadline for the final school jury, where all students’ shorts were shown on a cinema screen with professional judges from different studios. So we couldn’t miss that day! We had to organise ourselves with this deadline in mind, which was a really good exercise to fix objectives, and to learn to work with delays.

Could you tell us a bit about the initial concept for the character? What sort of research did you use to come up with him?



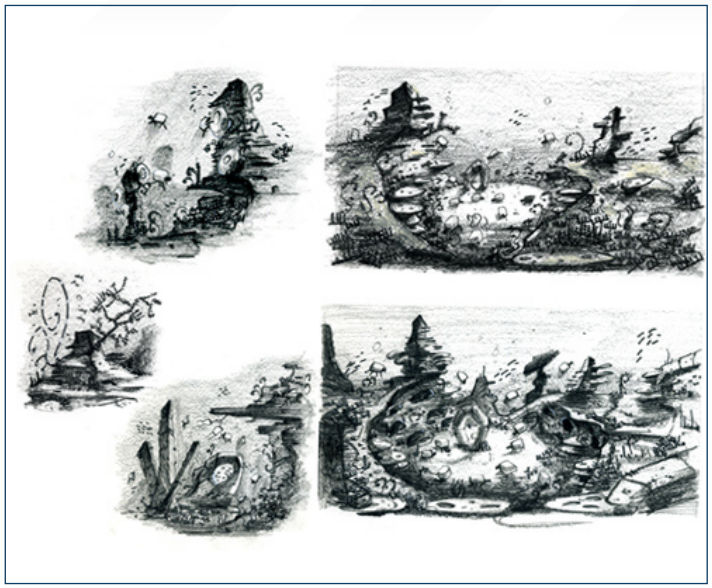
Vivien: Arno and Simon took care of the design. I had an opinion on it and gave some advice, but they created the visuals. We wanted the fisherman to be realistic but not too much so, and we wanted for him not to be too “cartoony” either. Arno made him with his proper style and gave him sharp edges, whilst at the same time smooth curves, which made him look like a friendly person, but also a determinate one.

Arnaud: I created the main character’s design and the other characters too (sheep, walrus, freshwater). The team wanted a primitive character which was very simple - a design between a realistic character and a stylised character. The main character had to have lots of charisma.

Simon: We thought a lot about the movie’s character; he had to represent a fisherman and also a shepherd. In the beginning of the story he only looked like a fisherman, but then he changed to become a shepherd, wearing a whole sheep jacket, etc.We talked a lot in the team about his design, and Arnaud and I did a lot of drawings to find an original character. Finally, Arnaud drew the final design, and created the 3D model.

So Vivien, you mentioned you gave Arno and Simon some input on the design, could you tell us what that was?

I provided some of my opinions mainly on the character design, on one hand because multiple suggestions help to see what works or not, and on the other hand because I was in charge of the rigging too, so the modelling had to be executed in a way in which the deformations looked nice. This is not exactly design but practical looking (not too fat a character or disproportionate parts where you place the edges; how many edges on the joints...).



Arnaud, could you tell us what were your main sources of inspiration when you were creating the main character?

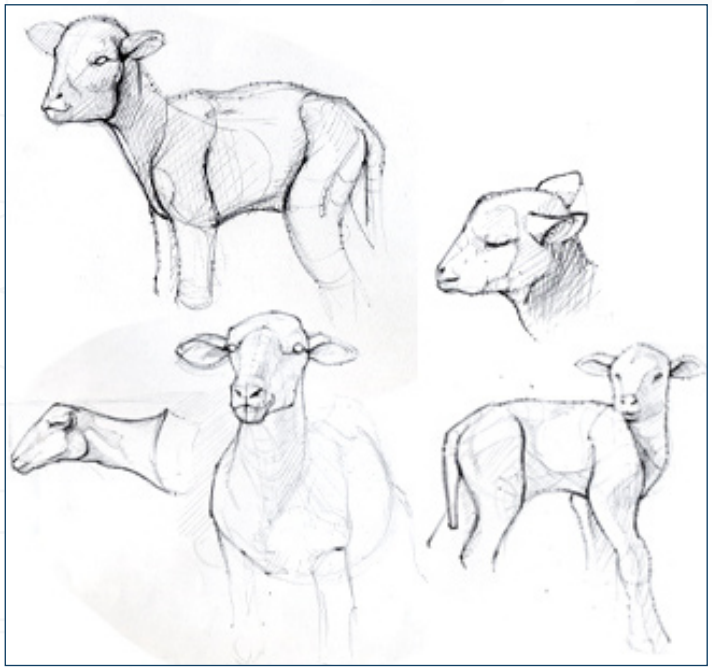
The main sources of inspiration were in my head and in my hand for the drawing. For me, the main character is a Poseidon look-a-like, with his beard and his spear. There are certainly a few parts of Blur and Pixar animation in him. If I don't admit that, I would be being hypocritical.

Could you tell us how the transition went for the character, from concept sketch to 3D model? What software did you use to create him?

Vivien: Arno spend a lot of time on 3DS Max because we didn't finalise the design in 2D, so he had a global idea but worked the details on the software directly in volume.

Arnaud: After lots of sketches about the main character, I knew him. He lived in my head; therefore the transition from concept sketch to 3D model was very simple for me. I conceived the digital 3D model characters into 3DS Max and I applied textures in Photoshop for the whole project.

After looking at some of your original ideas for the main character Arnaud, you had a design for him in a deep sea diver style breathing helmet. How come this idea didn't make it into the final animation?



At the beginning, the main character had a breathing helmet, because for the team it was not normal to live underwater. But after some thought, if sheep lived underwater, why would the main character need a breathing helmet? Everything was possible, so we had no limits! Lots of problems will disappear with him. In a five minute length short film, nobody asked themselves: but, how is the character breathing? So in the end, the team decided to cut the breathing helmet completely.

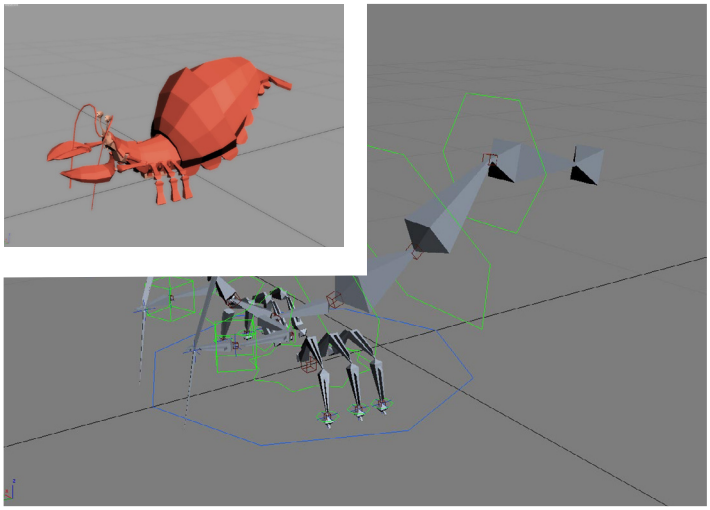
Could you tell us how you went about setting up the animation in the beginning? Did you work off concept sketches or did you just go straight to storyboarding it?

Vivien: I was in charge of the animation; Simon gave me a hand and animated the surface. Since the beginning of the storyboard I had a clear idea of the animation. I desired a mix between the movements we could make on earth with the gravity and those made in the zero gravity felt under the water. That's why we see the character evolving so freely in this world. As we were pushed for time I didn't spend time drawing poses and making animation tests before starting to animate.

Simon: To set up the animation we did all the research to avoid technical surprises and technical problems. The storyboard allowed us to get a preview of the entire movie, and to see what was necessary or not in the story. Next, the 3D layout allowed us to see how much modelling we had to do, and gave us a good approximation of animation timings, etc.

You mentioned Vivien, that you didn't draw any poses or do any animation tests. Did you encounter any problems as a result of this, or did things run smoothly?

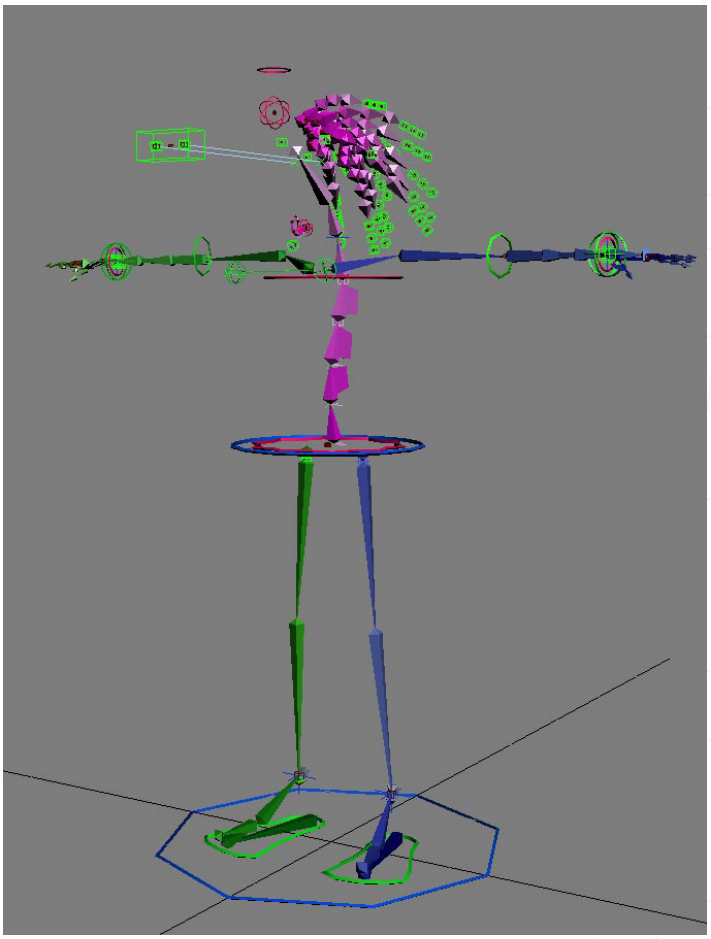
Globally, that didn't slow me down because again I had a precise idea in my head of the animation before starting the shot. I had more trouble for the sheep's swimming. As I hadn't made lots of tests, perhaps only three or four, I took a lot of time to find a swimming style which fitted with the sheep. It was a hard task to make fish-like swimming suit a four-legged animal that wouldn't usually live underwater!



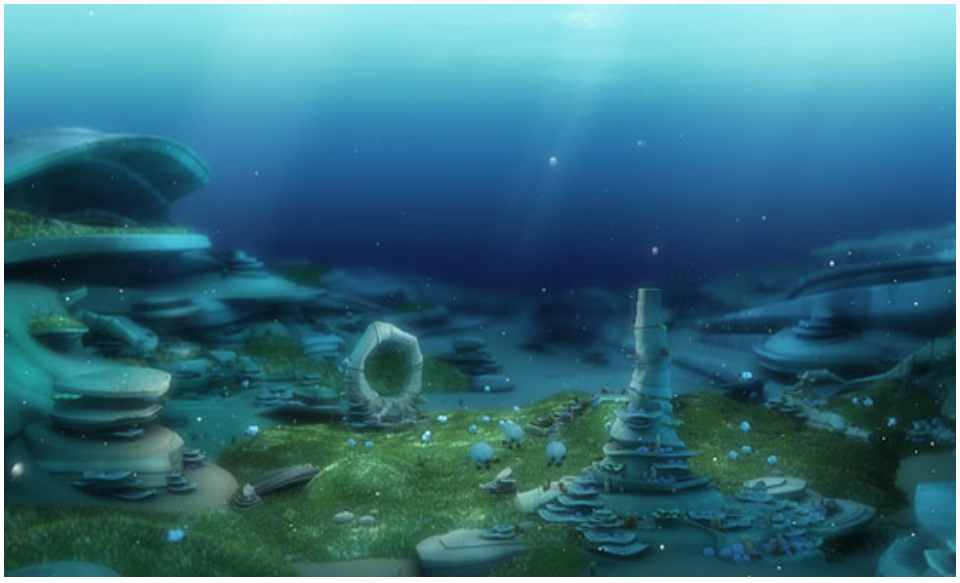
You have captured the lighting really well, for both the above and the underwater scenes, giving each area a tremendous atmospheric feel to them. Could you tell us how you achieved this?

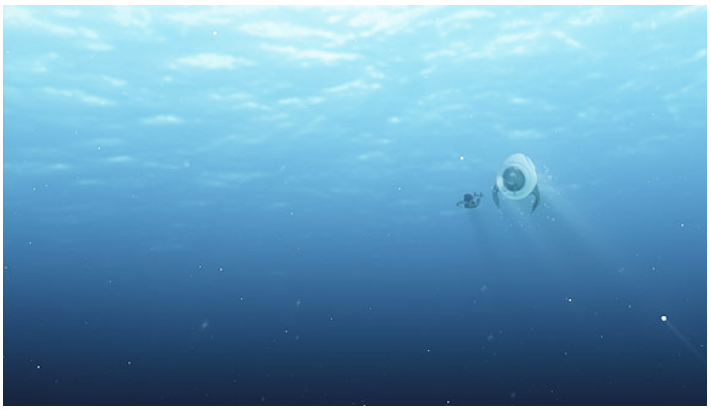
Vivien: Simon proceeded with the use of many passes layered in After Effects. With this principle we won a lot of time because the rendering time was considerably decreased. So he lightened each scene with several main colour lights, but with few intensity settings, and he reinforced them in After Effects. The use of the blue colour was necessary but had to be contrasted with warmer lights. We also used the depth of field pass as a way to set the objects in the background to blue. By this I mean that, the further the object, the more blue it would become.

Simon: Thanks! I've worked a lot on the rendering of the movie, making a lot of research for the underwater universe. In 3D, underwater is really hard to render, because it has a lot of particularities, like volumetric lights, caustics, fog etc. To feel like you are underwater, you must bring life to your scenes, with floating particles, "wind" on vegetation, grass, and so on. If the above scenes were easy to light (I used VRay renderer with global illumination) the underwater scenes would cause a lot of technical problems, so I decided to render them with default scan line renderer, and after that I made a big post production with After Effects to get a better render. I created a particular pipeline for the movie, making lighting at the same time with post production, allowing us to have very short rendering

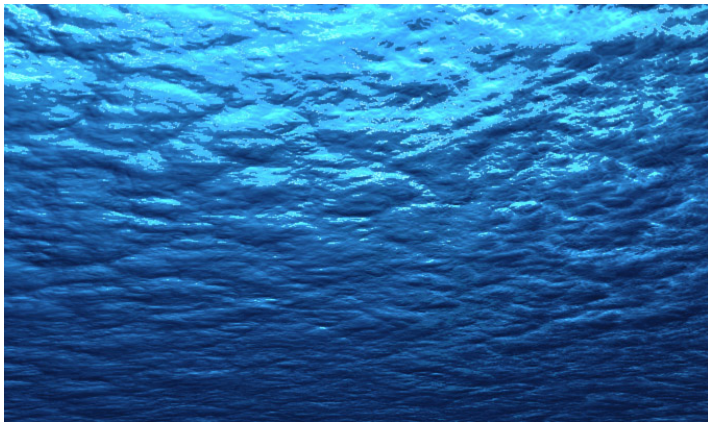


times (less than 5mn per frame for the diffuse pass) and lighting with only 6 lights for specific scenes! This was necessary because the underwater environment needed 5 to 15 passes sometimes, and compositing had been a difficult thing to do because I had to search for a long time to get the best number of passes to feel the underwater and to continue to work quickly. It took me 3 or 4 months to get the final lighting/ post production solution! For the surface part, the challenge was to create a credible ocean - non photorealistic, but not too “cartoony” - so I did a lot of tests, using real flow and all the capacities of Max, but there the problems we





encountered were “out of memory”, because of the number of polygons of the scenes. So, finally, I decided to make a more simple ocean, only with standard Max features (modifiers noise, wave, etc.) and I created shaders which made the other parts of the ocean’s look. Once again I used compositing to compile the different parts of the render.



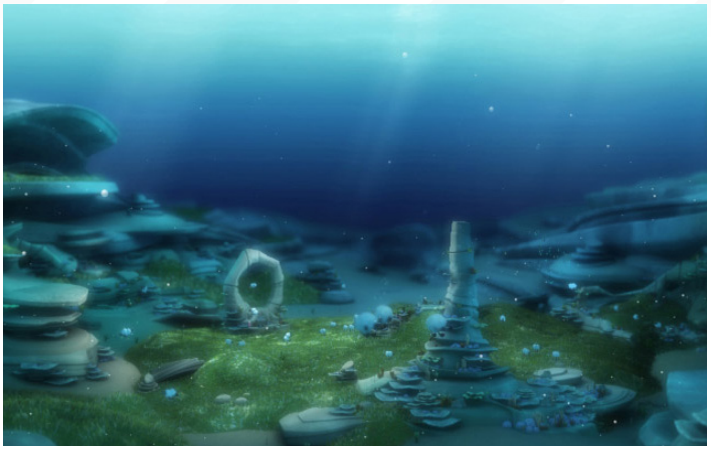
You mentioned having to make a simpler ocean due to memory issues. How does the final ocean compare to the old one?

Simon: My first try was a Realflow ocean, which interacted with the boat with foam, etc. But, after a lot of effort in Realflow, it was Max who made “out of memory”. The Realflow mesh has too many polygons for Max, so I decided to make the simplest mesh I could, in Max. Finally, the ocean was just a plane with base modifiers, noise, wave, and so on, but with a shader it made it all work! I created a standard shader which added a lot of detail to the surface, simple planes and composited them in After Effects to get a distant view of the ocean. I was happy for the results, because it was a really simple technique, but great for our needs.

From the concept sketches to the storyboards to the finished animation - how do you think the whole project went?

Vivien: It was great. We spent some excellent time together all three of us, and we learnt many things and worked efficiently without tearing the team apart. It was our first experience in a group project and it passed well. Since the beginning of the project from the final rendering, we didn’t know what the movie looked like, and it was only after the first projection that we saw the huge amount of work that we had achieved. For myself, I couldn’t have achieved a better outcome.

Simon: The team was ever agreeing for the story, and we used everyone’s individualities to get the best for the movie. Vivien, Arnaud



and I wanted to make a simple and original story, to bring some fresh images to people. The team worked great, and have had very good communication, which allowed us to work with the best pipeline as possible and to avoid lots of errors.

It sounds like you all worked very well as part of a team, with very little, if any, conflicts of ideas. Do you think you will ever work as a team on another animation project?

Vivien: I hope so, but for now we are following our own paths, but perhaps in the future we will collaborate again as a team, or perhaps all three of us will work in the same studio (which will be more difficult due to the number of CG studios out there). So, let's just allow the future to decide...

Simon: Oh yes, we have already talked about this! Our work on Moutons was so cool together that if one day we can work together again, it would be superb! We have really made a good team, with dialogue, fun, and together we have the capacity to make all parts of the 3D creation process!

What does the future have in store for you all? Any more animations in the pipeline?

Vivien: I work now in a French studio called Action Synthèse, and was hired for a TV show production; a remake of "The Magic Roundabout". We haven't planned to work again together just yet, but perhaps in some time a common project will surface for us.

Arnaud: For the moment, we hadn't project together. But in future, we don't know. I seek for job in games or movie industry as a concept designer or character designer.

Simon: My wish for the future is to work on other interesting productions, with original content. If possible, feature movies would make for longer experience. I wish to work on several different styles of projects too (cartoon, photorealistic, etc.), to achieve a greater understanding of the CG world.

If you had more time to spend on the animation, what would you have liked to have spent more time doing?

Vivien: Ha ha, many, many things - I would reprocess almost all shots! But surely I will work again on the group animation, giving more subtle movements or intentions to the background characters.

What advice would you give to anyone wanting to get into producing concept art for animation and such?

Arnaud: Firstly, love drawing and shapes - it's indistinguishable! Look

around you and you will find good ideas! Good visual references are very important. For me, nature is a never-ending source of design inspiration. For example, the sheep design was a problem for me; no member of the team had an idea about that. So I decided to draw true sheep to give a good basis. Shapes, curves and references are the key for good concept art for animation.

One last question before we finish. With coming up with the whole idea for the animation, and if you had more time, what one thing would you have liked to have changed?

Simon: Mmm... for my work, I would have changed a lot of things on the underwater lighting and compositing. We have learnt in the same time to create the movie, so there are things we discovered at the end of the project, but it was too late to change the old shots. I also would have added better interaction with the ocean's surface, but I think with the time we had to realise the movie, it's cool just the way it is.

Thanks very much for talking to us, and good luck for the future.

VIVIEN CABROL, ARNAUD VALETTE AND SIMON BLANC

For more information please visit:

http://moutonslefilm.free.fr

Or contact:

vivien.cabrol@gmail.com

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POWER NURBS PRO

[2.0] version

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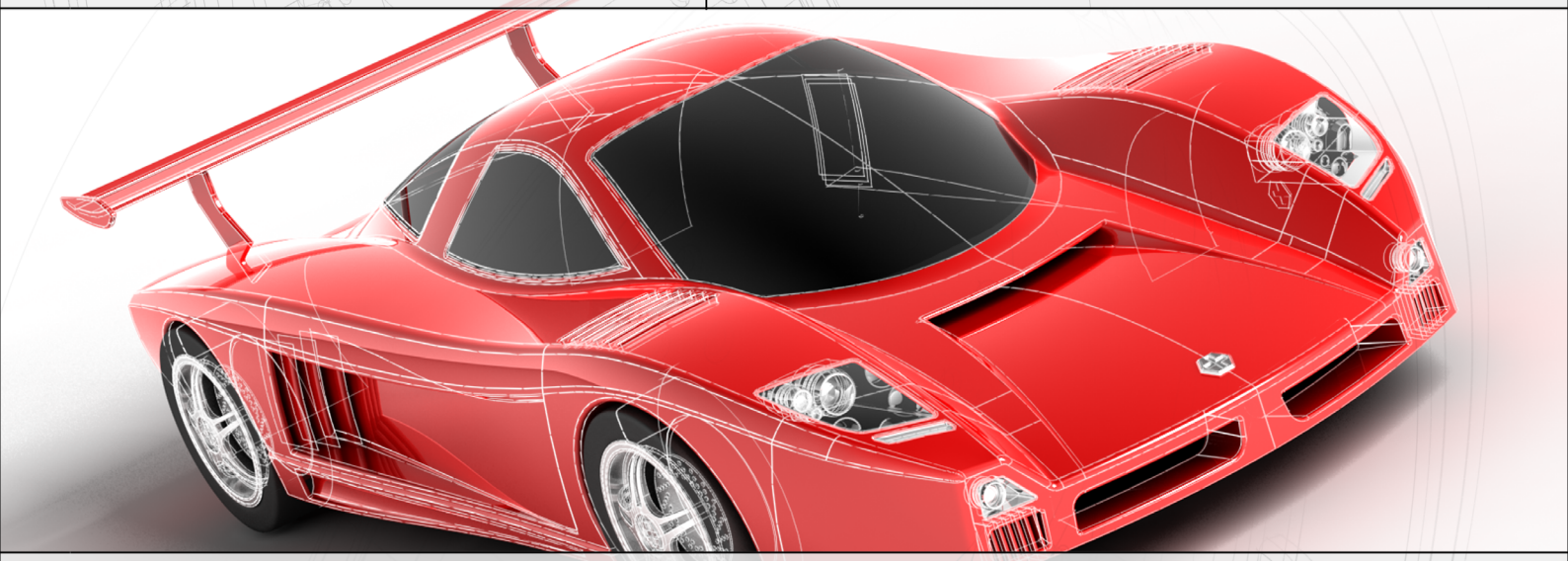

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Next Generation Games

"DEVELOPERS ARE MORE EXPERIENCED WITH THEIR NEW TOYS, PUBLISHERS ARE LESS NERVOUS ABOUT THE CHANGING MARKET & GAMERS THEMSELVES ARE LOOKING FOR SOMETHING NEW."

The seventh generation is the era in the history of computer and video games that began on November 21, 2004, with the release of the Nintendo DS. The console portion of the generation began with the release of Microsoft's XBOX 360 on November 22, 2005, and continued a year later with the releases of Sony's PlayStation 3 on November 17, 2006, and Nintendo's Wii on November 19, 2006 in North America. In this second part of our series, we talk to High Moon Studios about their experiences of the Next Gen Gaming World...

HIGH MOON STUDIOS™

How have the new generation consoles changed the approach to game design?

As with every introduction of brand new console systems, the approach to game development as a whole changes from game design and technology to art. There are two distinct camps right now. On one end there are two high-powered game consoles; the Microsoft XBOX 360 and the Sony PlayStation 3. And on the other, there is a revolutionary and innovative console in the Nintendo Wii. The XBOX 360 and PlayStation 3 offer graphical, technological, and performance features that have empowered game designers with a larger arsenal of mechanisms to create photorealistic characters, engaging A.I., complex motions, and more interactive environments. The Wii instead revolutionises the way we interact with the game, creating an entirely different mindset in the way developers need to approach fundamental concepts, such as game controls.

What differences in studio / team size / budget / development time, does next generation game development bring? Consumers expect larger worlds, more extensive game play, online connectivity, and generally more value and an experience that delivers on what they expect from a generational jump. Delivering on these expectations requires additional layers of complexity to game development that are very tangible, for instance the creation of many more assets. The obvious result is going to be a trend towards larger teams, bigger budgets, and longer development cycles.

How much more freedom has been awarded to the artists in terms of texture memory and poly-counts? Artists are now blessed with more of everything, and texture memory and poly-counts are only the beginning. There are advances in graphical technology that have empowered artists with newer techniques, tools, and processes that help them achieve more realistic characters and environments. Some examples are programmable shaders, normal mapping, advance lighting controls, motion blur, and advanced cinematography techniques.

In what areas do you feel there have been major advances made over the XBOX and PS2?

We are seeing some incredible advances in shader development, and artists are now able to create more realistic materials and textures, from realistic skin to dirty, grungy, metallic surfaces. Modelling has made strides in this past generation of consoles and already has relatively known processes and techniques, but it is the way we are using it to make the models come alive. With the huge jump in the level of art quality and quantity of assets required for next-gen systems has come bigger art and animation teams, so that's a couple of layers of added complexity to creating and implementing art in next-gen games. At High Moon, we've benefited from a close relationship with Autodesk, especially when we created our first game, Darkwatch, where we primarily used Maya and MotionBuilder. As we transitioned our developers to next-gen games, we were approached by Autodesk and introduced to solutions that included ways to ease the art pipeline. One decision we made was to incorporate 3DS Max into our software suite for several reasons. It lets our artists use the application that they're most comfortable with, yet they can share data easily with those on another application. It also allows us to attract and hire artists who have experience in the

tools they use, and once they're on board, regardless of their preference, they're ready to become productive right away.

Which consoles will you be supporting PS3 / Wii / XBOX 360? We are a completely next-gen studio, having spent the past year and a half developing proprietary next-gen tools and expertise with what we consider best-in-class licensed technology, such as the UE3 engine and Autodesk's 3D animation products. We're currently developing titles for XBOX 360 and PlayStation 3. That said, we're looking at the Wii with some interest and certainly a healthy dose of gamer enthusiasm.

There are many that maintain the argument that current consoles continually improve the graphical appearance of games but do not your stance on this? As with film and television, slick production values, special FX galore and great casting do not necessarily make up for fundamentals such as a good script or even just a good story. The same applies to games. No matter how pretty we make the game or how technologically advanced we claim a system to be, we have failed as game makers if we're not delivering on what fundamentally makes a good game, and that is engaging gameplay.

Many games seem to be striving towards more and more realism in terms of texturing and lighting, for example, as well as more convincing character models. Do you feel this is something consumers seem hungry for and what do you see are the pitfalls inherent in this approach? Consumers want more realistic characters to make the video game experience immersive and life-like. Artists are making strides to achieve more convincing looking characters in modelling, texturing, shaders, and animation. Yet, going along with the theory of the "Uncanny Valley", there is something still lacking in the execution that is becoming more prevalent with next generation characters. The challenge is to correct the uncanny strangeness that sparks a native emotional response to the appearance of next generation characters from the way they act in the world and interact with other characters.

Artificial Intelligence is quite often regarded as the "holy grail" of game development. In what ways are the next generation consoles helping to unravel this very elusive element? Next generation consoles provide more horsepower that helps achieve better A.I. functions, such as larger memory. However, at the heart of good A.I. is well thought out game design and a solid plan in place to execute on it. What resonates as good A.I. is sometimes perception that the characters are more reactive, have an acute understanding of the environment and other characters, and even perform believable problem solving, when in fact highly polished design is helping achieve some of that.

In this time of constant sequels to 'big name' games, what importance is given to developing your own game IP for next generation consoles rather than relying on licenses? Remember with our debut title, Darkwatch, at High Moon, the foundation for our studio was built around the development of an original game based on our own IP. The majority of game developers would agree that creating and developing original IP is the most gratifying and inspired part of game development. It can also be the most challenging, as well as the riskiest to market and sell. That said, every major non-licensed franchise had to start with that first original game, and plenty of licensed properties have proven to be risky ventures themselves. It has to be a mix. There will always be room for licenses and sequels, but new IP is what will grow our audience and help our industry to expand.

Thanks very much for talking to us, and good luck for the future.

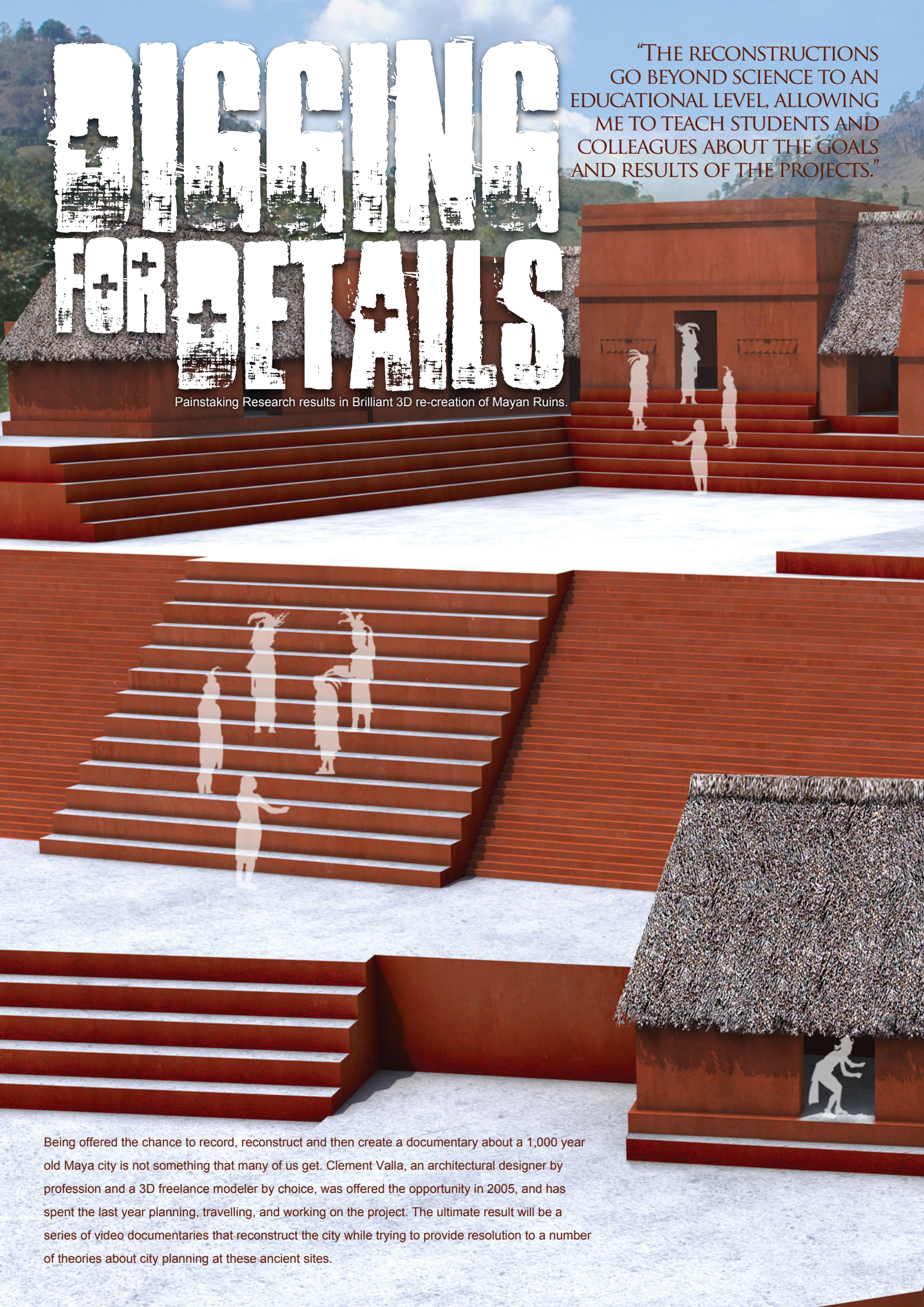
Emmanuel Valdez

Chief Creative Officer, High Moon Studios
For more information please visit:
www.highmoonstudios.com
Or contact:
marketing@highmoonstudios.com
Article Courtesy: Red Lorry Yellow Lorry
Interview by: Ben Barnes, Richard Tilbury & Anthony Baldwin

DIGGING FOR DETAILS

Painstaking Research results in Brilliant 3D re-creation of Mayan Ruins.

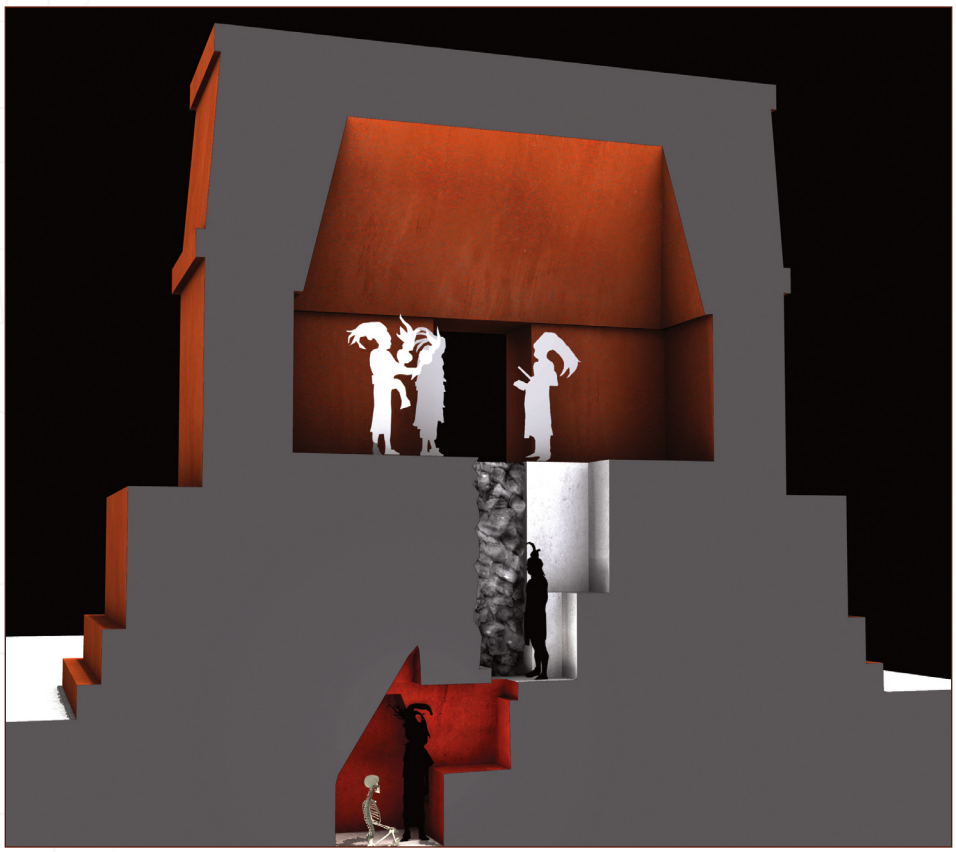
"THE RECONSTRUCTIONS GO BEYOND SCIENCE TO AN EDUCATIONAL LEVEL, ALLOWING ME TO TEACH STUDENTS AND COLLEAGUES ABOUT THE GOALS AND RESULTS OF THE PROJECTS."

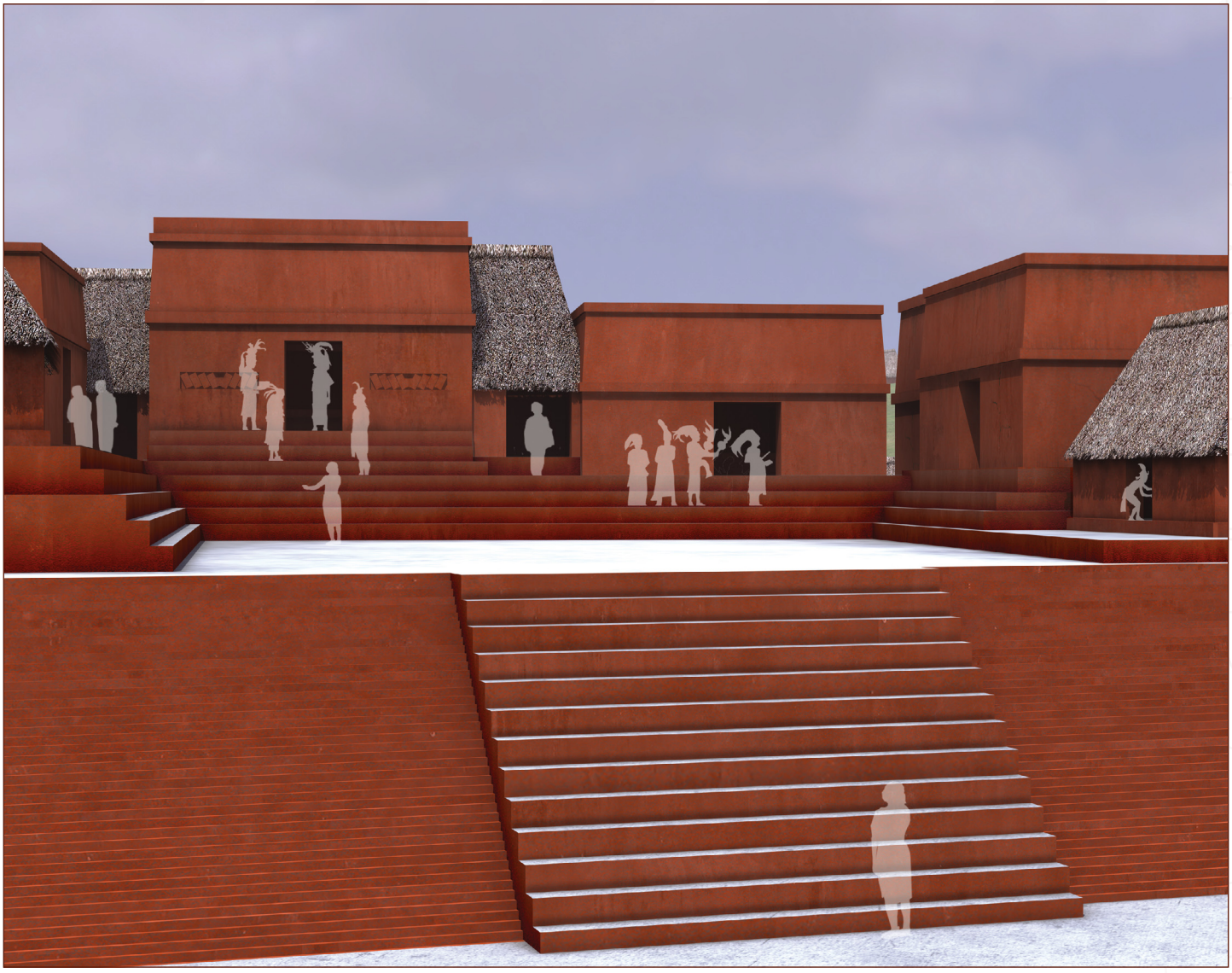


Being offered the chance to record, reconstruct and then create a documentary about a 1,000 year old Maya city is not something that many of us get. Clement Valla, an architectural designer by profession and a 3D freelance modeler by choice, was offered the opportunity in 2005, and has spent the last year planning, travelling, and working on the project. The ultimate result will be a series of video documentaries that reconstruct the city while trying to provide resolution to a number of theories about city planning at these ancient sites.

DIGGING FOR DETAILS

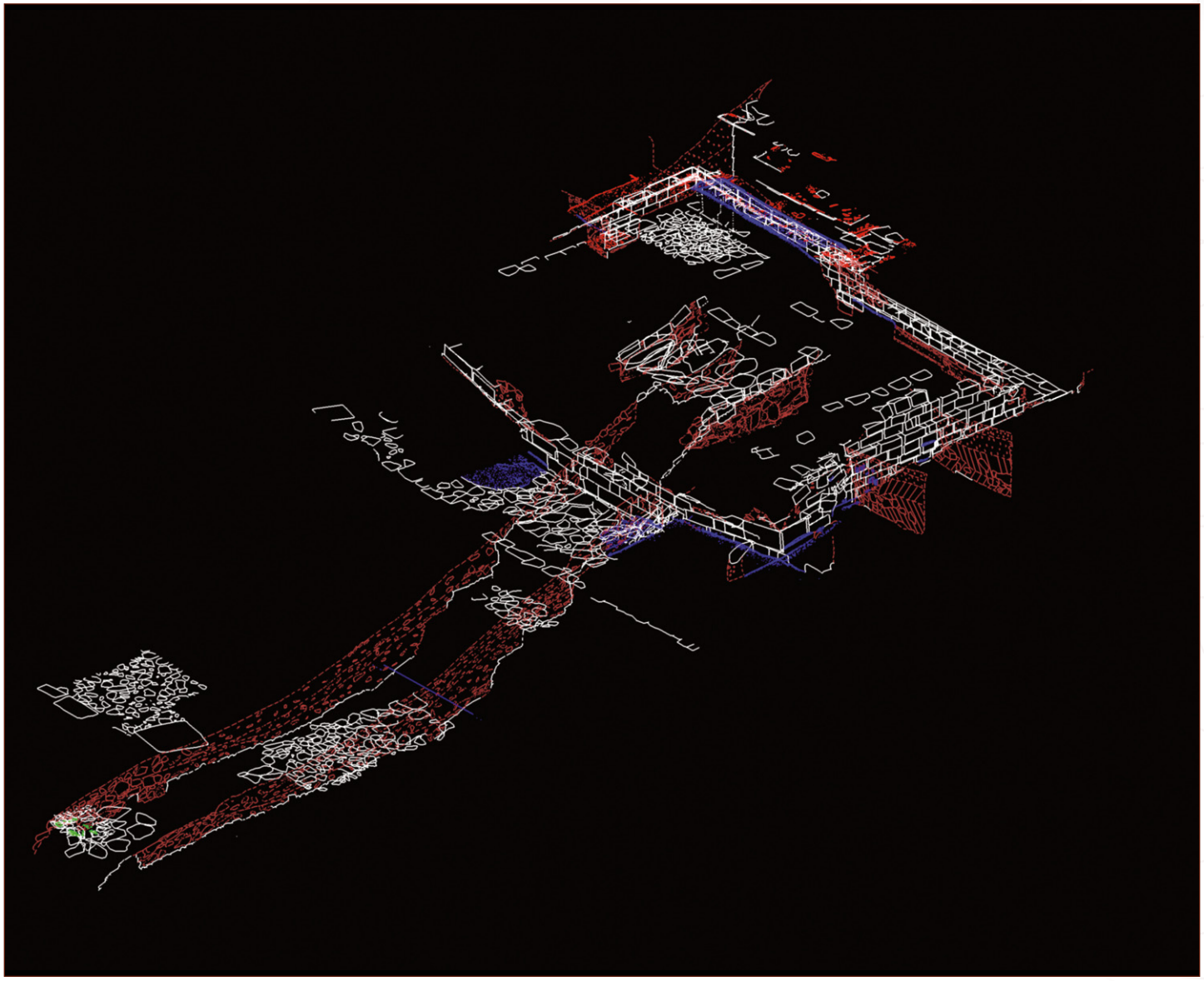
PAPAC, or Proyecto Arqueologico para la Planificacion de la Antigua Copan, is based at the UNESCO World Heritage ruins in the Copan River Valley in Western Honduras. Regarded as one of the most important Maya ruins, the city was abandoned in the early 10th century after many hundreds of years of habitation. In 2005, the Department of Anthropology and Sociology at Colgate University, NY, in partnership with PAPAC, and sponsored by the Honduran Ministry of Culture, and funded by National Geographic and Colgate, started a project to determine if intentional city planning was a part of the growth of Maya cities. The archaeological team also wanted to investigate a hunch that the city planning was influenced by socio-political and religious ideas, especially those centred on Maya Kingship. To do this, they would need to be able to reconstruct parts of the city and the valley landscape based on archaeological findings. And to achieve that, the project team needed to be able to access 3D digital technology and expertise. For that, they turned to Clement Valla. While planning for the project started in 2005, Valla's work really started when he visited the ruins in February 2006. "The first part of the project was for to work with info from a completed dig," says Valla. "This means the excavations had already been covered back up for conservation purposes. I had to work with hand-drawn plans, maps and was also able to generate some GIS data on-site for referencing." Taking several hundred hand-drawn plans of the dig, Valla scanned them all and then imported them into Rhinoceros,





3D NURBs modeler software. At that point he could arrange the 2D scans into 3D layers that created a set of working reference points for construction of a 3D model. The GIS data that Valla had recorded was also imported directly into the 3D software to enable accurate scaling of the model and accurate topological modeling directly in the software. “Arranging all this disparate data in Rhino was very easy,” says Valla. “Once the data was in, I could reconstruct the ruins themselves in 3D. That’s when the interesting aspects started – reconstructing the buildings as they were 1000 years ago.” Using very detailed notes, the archaeological team and Valla could extrapolate what each structure would have looked like. “The level of detail from the archaeologists is amazing!” He comments. “Even the most minute details, based on the tiniest of findings like a roof feature, gave these experts the clues to determine what kind of roof structure was used, how high the building was built and so on. I would then reconstruct that in the model.” The second part of the project was on a current dig a different area of the ancient city, where Valla visited again in March 2006. The ability to survey and record visible ruins brought up more options for Valla to create rapid and accurate 3D data for the model. He opted to use photogrammetry software that would allow the fast creation of 3D data from photos. Valla selected PhotoModeler from Eos Software “because the performance was high and the cost suited our budget.” Using a Nikon SLR camera, Valla took detailed photos of the open trenches and ruins to record the details. “While we were there, an incredible tomb was discovered, and taking photos allowed us to record exactly how it looked when it was opened as well as giving us usable data for creating the 3D model,” says Valla. PhotoModeler works by using scans of photos to determine a series of 3D reference points, which can then be imported into 3D CAD systems for a variety of applications including reconstruction of events or scenes. “With the photogrammetry, we could take away photos and come out with a very precise 3D data model,” says Valla. “This then imported directly into Rhino where the 3D model could be worked on, rendered, animated and used.” The tomb was apparently in danger of caving in when it was discovered, so the team recorded exactly how it looked before performing construction work to ensure the safety of the archaeologists as they entered the

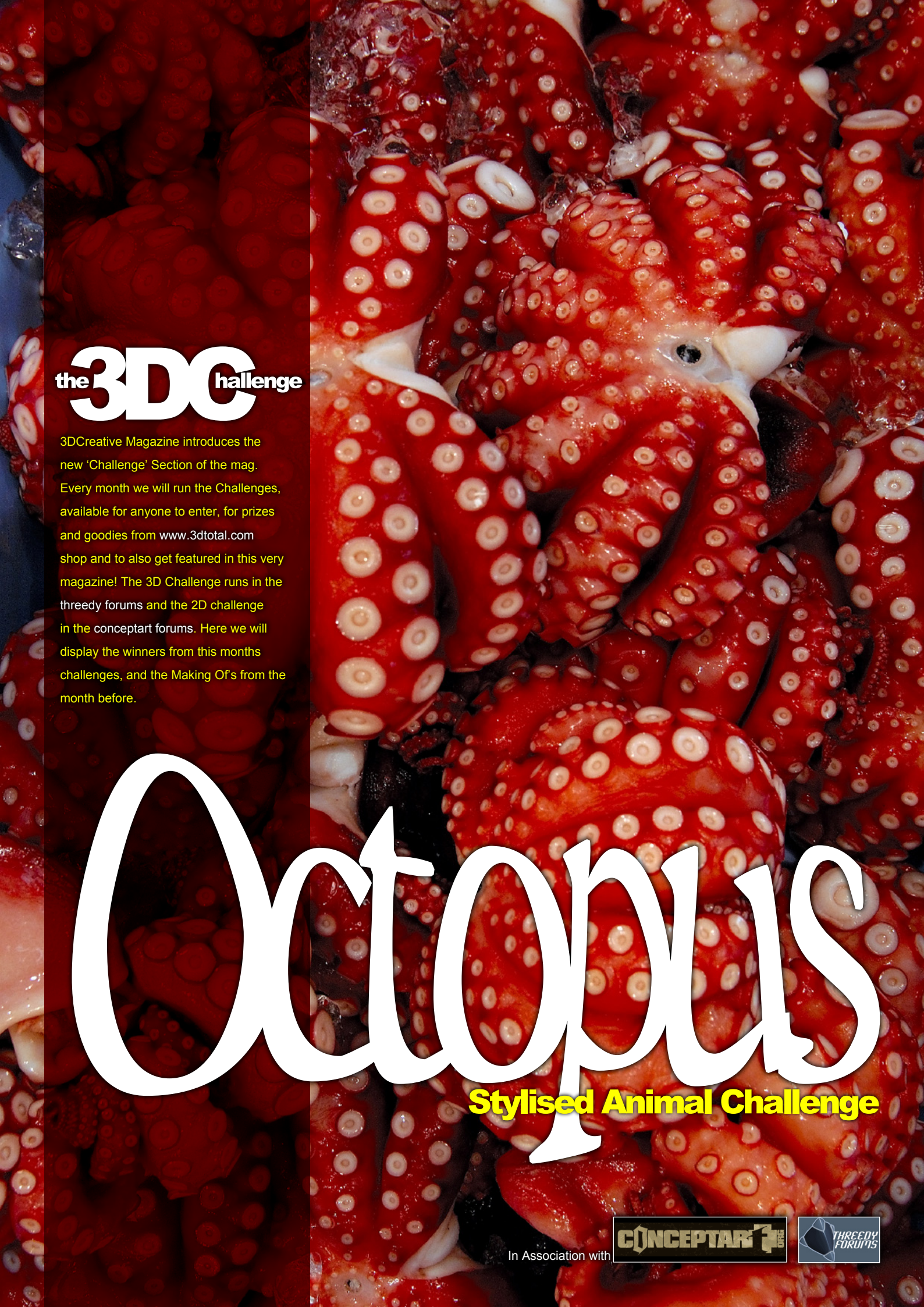
tomb. "The tomb was well below the ground, and about 3 x 2 x 2 meters in volume, which made photography quite challenging – but really the only option," says Valla. Apparently the challenges of the vault were numerous – the team could not risk touching the walls as the plaster would fall off. In addition, lighting was a challenge given a weak power source from above. Finally, Valla, with a personal fear of spiders, faced his own fears as he entered the tomb. "I was very apprehensive of going in to the vault, for all the reasons above, not just the fearsome spiders in Honduras, but we were only there for a week and needed to record as much data as possible," Valla explains. "The resulting model used about 60 photos of the tomb, and turned out to be highly accurate and a superb recording of the artifact." Once all the data was turned in to 3D, and reconstruction work performed in Rhino, the model was exported to 3DS Max for animation and rendering. The animations are the basis of the documentary work, of which there is a short example on the PAPAC web site (www.papacweb.org.) Further editing and production work is still underway on the complete documentaries, which will be available sometime in 2007. Professor Allan Maca, an archaeologist from Colgate University and director of the PAPAC project commented that the benefits of the 3D reconstructions are multiple, and had high praise for Clement Valla's skills and abilities. "There are many ways that Clement's work helped – too many to discuss in detail, but the main three are: the reconstruction of the 'hypothetical' city are highly detailed and are be quite true to form. We can now see the city in ways that were otherwise impossible with 2D scale drawings, which heightens our understanding and knowledge, now allowing us to test other hypotheses on the ruins." "Second," adds Maca. "The reconstructions go beyond science to an educational level, allowing me to teach students and colleagues about the goals and results of the projects." Maca points out that Clement's work on various projects has already been used to directly teach the Honduran Government and public about the importance of ruins located on private lands and the need for their protection from looting. The team is working on securing government protection for ruins that they



see are endangered, using the 3D models. "Finally, Clement's work, based on multiple sources of data, raised the team members' awareness of the importance of the data they produce," Maca continues. "Clement's focus on detail helped to bring us together as a more closely-nit team, where each of us realized the importance of each aspect of our work and of how this could be used by Clement later. This was incredibly valuable." Maca described the painstaking level of detail and research that Clement Valla engaged in. "Clement's work is both accurate and provocative, but is the result of months of reading and research that Clement himself underwent, as well as close work with myself and the rest of the team to be able to understand the intricacies of Maya architecture. As a result the 3D reconstruction is accurate, and allows us to develop out thinking in ways we never thought possible. We hope this is an experience we shall repeat with Clement as the project continues." Having spent years working on architectural 3D models, renderings for presentations, the project turned out to be "entirely consuming, validating and satisfying," according to Valla. "But I could not have done this project in just any software," he adds. "Rhino is so very comfortable to use and so versatile in its 3D commands, that it just works as the glue that ties all this disparate data together into a usable model for the investigation. I find it far faster and easier to create 3D in Rhino and then export to 3DS Max, rather than doing original modeling in 3DS Max. Rhino is seamless in importing and exporting data to other software technology, making projects such as this a pleasure." Clement Valla is a freelance 3D Digital Designer based in New York. He can be located at: www.mediumprojects.com

THE PAPAC PROJECT

Described above can be seen at
www.papacweb.org
Rhinoceros software can be located at
www.rhino3d.com
PhotoModeler software can be located at
www.photomodeler.com
Article By Rachael Taggart



the 3DC hallenge

3DCreative Magazine introduces the new 'Challenge' Section of the mag. Every month we will run the Challenges, available for anyone to enter, for prizes and goodies from www.3dtotal.com shop and to also get featured in this very magazine! The 3D Challenge runs in the threedy forums and the 2D challenge in the conceptart forums. Here we will display the winners from this months challenges, and the Making Of's from the month before.

Octopus

Stylised Animal Challenge

In Association with CONCEPTART.ORG THREEDY FORUMS

Stylized Animal Challenge
Octopus

Welcome to the Stylized Animal Monthly Challenge. Each month we will select an animal and post some images in the Forum Thread as reference. All you have to do is create a 3D render of this creature in a stylized/abstract/cartoon style whilst keeping your creature instantly recongnizable. We wanted to publish some content in 3DCreative Magazine on how to create stylized animals such as you see in the many feature films and cartoon galleries. We thought this regular competition might bring in just the images/making of's we need whilst giving away great prizes and exposure. If it's a success we will start to boost the prizes up as much as possible! This months 'Animal' was the 'Highland Cow'. You can see the top 10 placed entries, as voted for by the public.

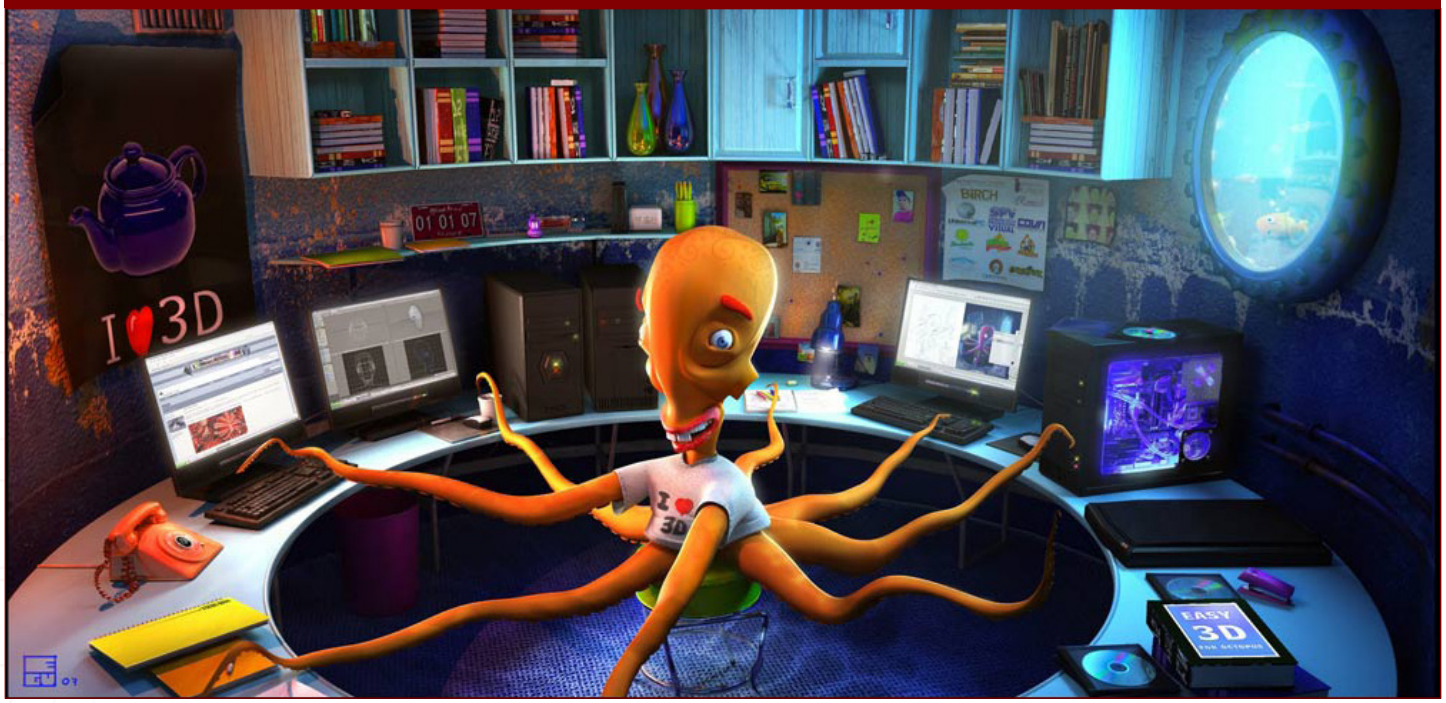
5TH CAPITAN POPO

WHAT ARE WE LOOKING FOR?

Funny and humorous entries which break the animal down to its most recognizable components, emphasize these in whichever ways you think best and render your stylized/abstract/cartoon masterpiece. The rules are pretty laid back, please submit 1x3d render, minor post work is ok, its up to you if you want to have a background, include some graphical elements or text on your image. Renders of the 800 pixel dimension sound about right, but the top 10 will be featured in 3DCreative Magazine so if you can create some higher res images too all the better. There will be 1 competition per month, with the deadline being the end of the month GMT. For a valid entry, just make sure your final image is posted in the main competition thread before this time. We require the top 3 winners to submit 'making of' overview articles that will be shown on either 3DTotal or 3DCreative Magazine , these need to show the stages of your creation, different elements and some brief explanation text, of why and how you did what you did. We will format this into some nice looking pages to give you some great exposure and us some quality content. Each competition will have one main thread that starts with the brief at the top. This is where all entrants post all WIP's, give feedback and generally laugh at the crazy ideas that are emerging each month.

4TH. HAMMERING 3D

3RD. ARTECNL



2ND. OMALLEY

The Challenge now at the Voting Stage is
"OCTOPUS"

The Current Challenge taking place is:
"CAMEL"

To Join the next challenge or view
Previous and current entries, visit
www.threedy.com
Or for the 2D Challenge
www.conceptart.org
Or contact
ben@zoopublishing.com
For more information

1ST. AUTHENTIC

THE MAKING OF 'Highland Cow'

Here are the 'Making of' the winning entries from last months 'Highland Cow' Challenge

1ST Artecnl

Hello, My name is Eugenio Garcia Villarreal,. I am a Freelance Illustrator from Monterrey, Mexico, I'm a person who enjoys to draw and do creative things. I have learnt everything I know in 3D thanks to sites like www.3dtotal.com and tutorials like this. I have two years experience using 3D programs, and 9 years experience in the area graphic design. In fact, I finished my bachelor degree last December. With this image, everything began the day I saw a contest called Stylized Animal Challenge in the www.threedy.com forums, a great site that I frequent regularly. I decided to find out more about the challenge, and found that it looked like a lot of fun, in addition to it being a challenge for me, as well as good practice. Last year I hardly made any 3D images as I basically have been doing more 2D than 3D. I had never heard of the Highland Cow, as here in Mexico I have seen only regular cows, So, I put my Internet to browser to work, to look for a greater amount of reference images of the Highland Cow, and also to look for images of the anatomy of the cows. Remember that it is always necessary to have a great amount of information before starting something in 3D. (Fig01). The Sketch I created was simple. I was trying to exaggerate the characteristics of this animal, whilst also trying to get a 'cartoony' look.and not change too much the 'actual' characteristics of the animal. (Fig02). A great aid is to use the forum to publish your images WIP's, and to hear comments from other artists helps a lot, (Big thanks to all threedy guys;-). Thinking about the general concept of my entry, I came up with this idea (Fig 02), A solitary, but simultaneously happy farm with only one Highland cow. Whilst trying to look for interesting and happy

Fig01

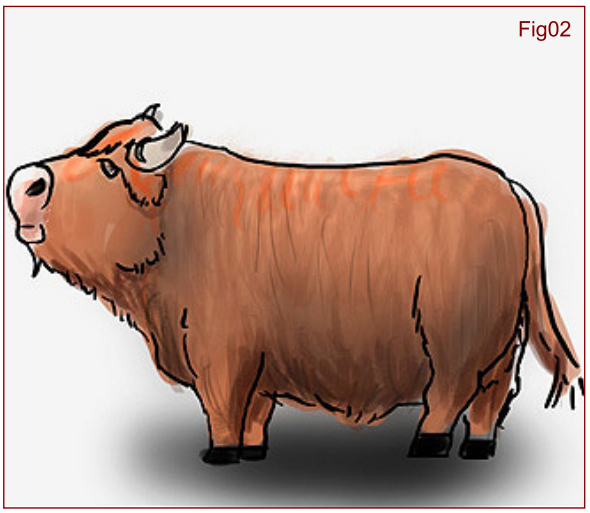
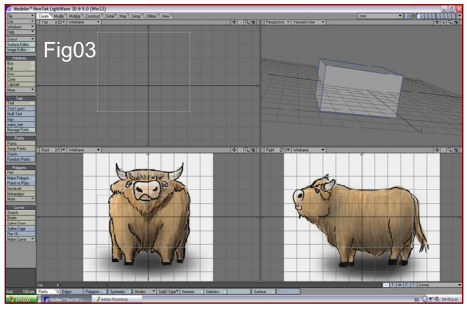


Fig02

colours, I choose the blue and orange for my main palette. Also I looked for inspiration in the cartoon gallery at www.3dtotal.com and also in the tutorials area. There is some great stuff form other artists. With my concept in my mind, I opened Lightwave 3D and began to model, work that is very relaxing task to me, I put on some good music and I can model for hours and hours. I did basic Box modeling for the whole mesh, using sub-patches, all the time having my images of the concept sketch in the background. I used several tools such as bandsaw, multishift drag net, etc. To be honest, this is the first time that I have made a complete 3D character from start to finish. (Fig03 - 08). I had however, a great time creating this model. Also I created the wire fence in the background, using box modelling, and splines for the wires. (All the time keeping an eye on the reference images). (Fig09). Once the modelling process was finished, I opened the layout section of Lightwave to begin putting together the final composition, arranging the lights and placing all items where I wanted them to be. (Fig10). For the floor I used an image which I front projected onto a simple plane as a texture. I then added two lights, one spotlight with a shadow map, and an area light for the global illumination. I used a flipped sphere with light at 100% for a better dome light. Here is the clay render. (Fig11). I created the render in two passes, one for the mesh and another for the fur including the respective alpha maps. (Fig12 & 13). The fur was rendered with the sasquatch plugin from Worley Labs, final render was done with Fprime, from Worley labs too. With a light quality index of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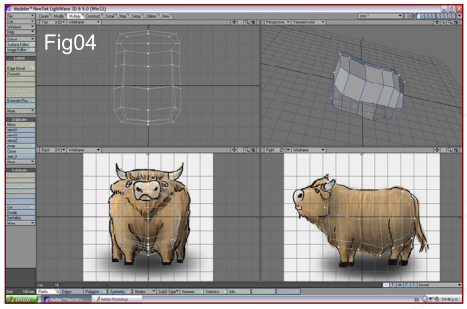
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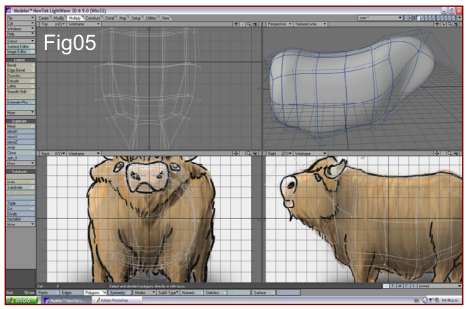
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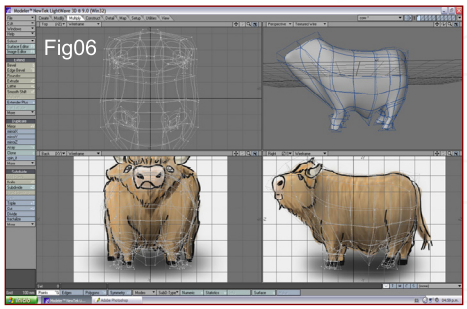
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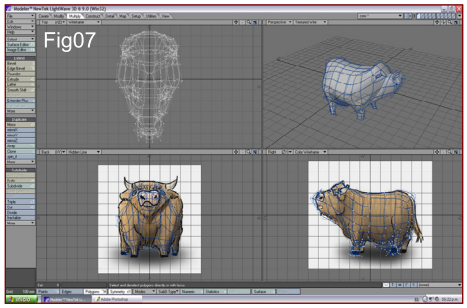
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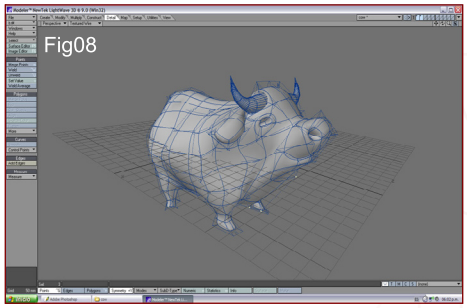
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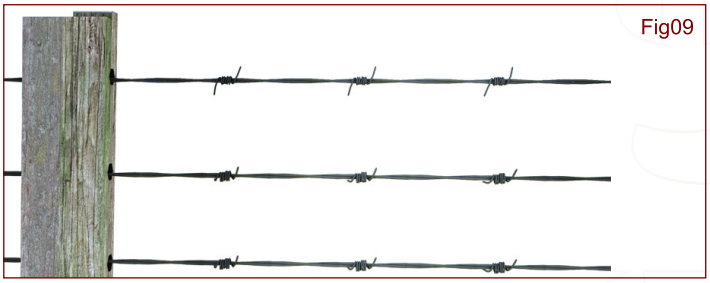
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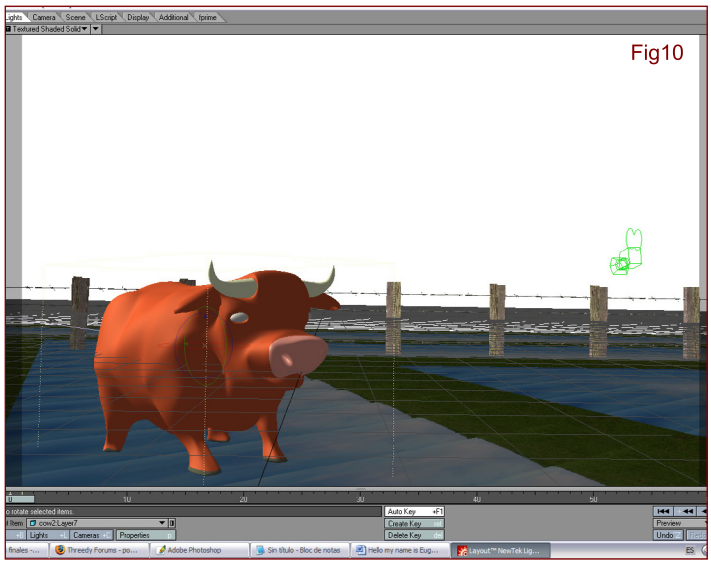
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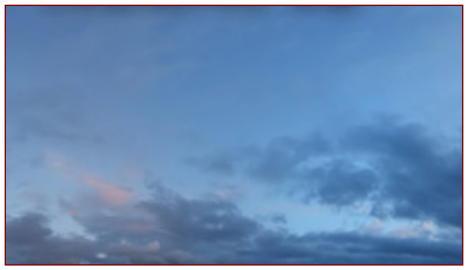
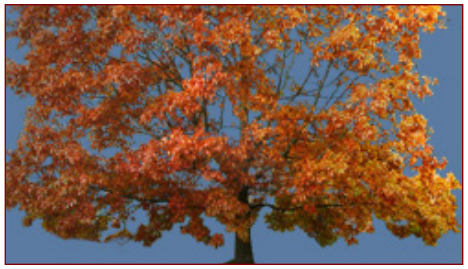
Fig11


Fig12


Fig13


Fig15





6 and 'montecarlo' radiosity at 100% & one light bounce. My final resolution was 2000 x 1400 pixels . Once I had rendered my images, I quit Lightwave and opened Adobe Photoshop in order to make my final composition. I believe that this is a very important step, since post production can make the image better and more beautiful. I always put all my different elements in separate layers to give me control over each one of them. I made some adjustments in the fur layer, and corrections to the colour. (Fig14). In order to create my background, I used the 3DTotal Textures Volume 2 and Volume 10 (www.3dtotal.com/shop). (Fig15). I used different types of clouds for the sky, modifying the properties from each layer, such as opacity, soft light, etc. I was trying to create a fantastic sky. The tree was altered only to match the lighting, This is very important if you do not want your imager to look artificial. (Fig16).

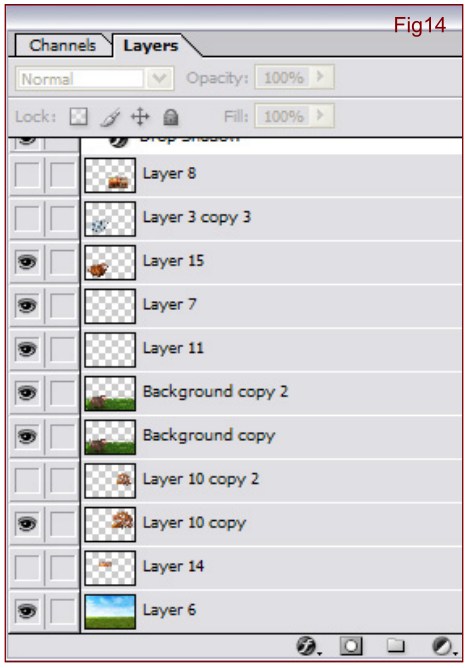


Fig14


Fig16


Fig19


Fig17


Fig18

Also, I used the Dodge and Burn Tool to define contrast in somer areas and also to increase brightness. Once I had finished the final details, I flattened my layers. My next step in this process, was to improve my composition. One of the things I did to accomplish this was top try flipping the image horizontally to see if it made for a better composition. I decided that it was better like this as the image translates directly into how we read in the west, left to right and top to bottom. (Fig17 & 18). In the Final steps I played with the saturation, the brightness, the colour curves and I played a little with the sharpen tool, mostly for the fur. (Fig19).

Eugenio Garcia Villarreal

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2ND Praveen

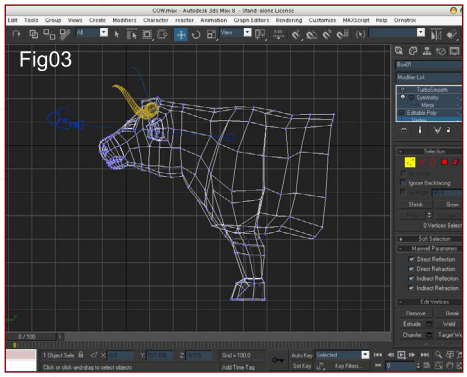
My name is Praveen V.S. And I am a self-taught freelance 3D artist from Kerala , a small state in South India. I am a regular participant of the 3D Challenges from threedy forums which helps us to develop our creative talents very much. Here I'll show you how I created the 'Rockstar' Highland Cow, which won a top 3 place in the Stylized Animal Challenge at 3dtotal. The main idea of the image was to create a very modern, stylish & rough figure of the highland cow. To make it more stylized, I added a rock guitar, headphones etc. with a singing pose which were inspired from the rockstar type image. The tools I used were 3DS Max 8 with Default Scanline Renderer & Ornatrix demo plugin for creating the hair. I used the polymodeling technique from a box object for creating the cow and Photoshop for creating the textures for shirt, body & horn.

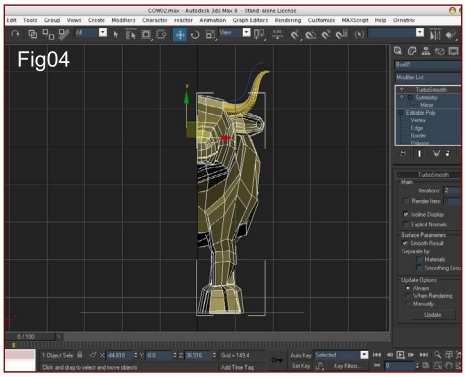
Reference inspiration

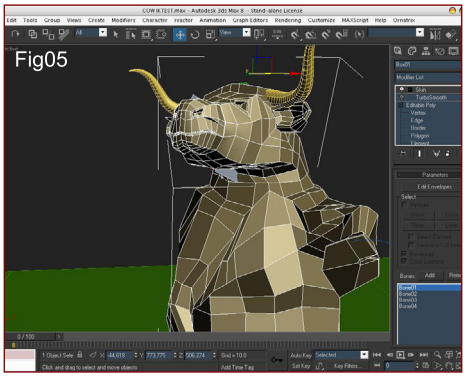
Before I started, I collected some reference images of Highland Cows & Guitars etc. from the internet, mainly from google image search. (Fig01 & 02).

Cow body

I started from converting my basic box to an Editable Poly and then added Symmetry & Turbosmooth modifiers to the stack. The cow was simply modeled mainly using Extrude, Bevel tools and adjusting the vertices. The horn was made by extruding a cylinder through a spline using the 'Extrude Along Spline' option. Then I used some simple bones and rigged my cow to pose. (Fig 03 to 05)







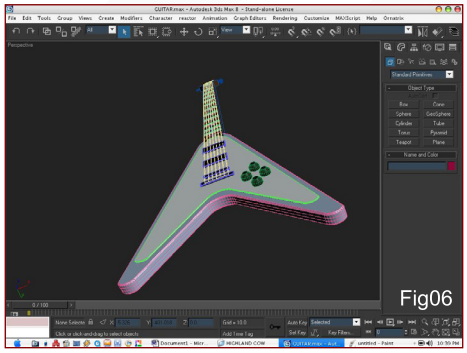


Fig06

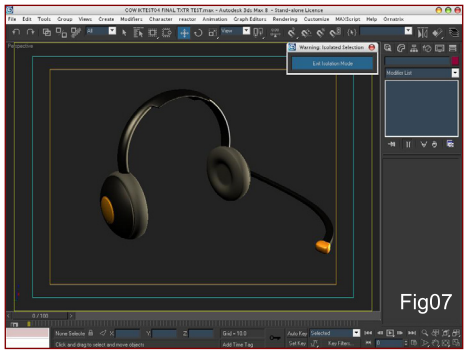


Fig07

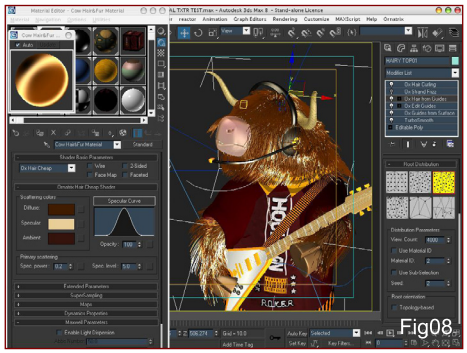


Fig08

Props Then I modeled other objects like the Flying-V Guitar, Head Phones, T-shirt etc. The guitar was simply modeled by extruding splines. The headphones were made from a hemisphere and an arc. (Fig 06 & 07)

Hair For the Highland Cow, creating hair was the most critical process since 3DS Max's own hair & fur modifier can take a long time to render. I downloaded a trial version of ephere ornatrix - www.ephere.com. and it is one of the best hair generation plugin available for 3DS Max. Ornatrix is a cheaper alternative to expensive hair shaders, and is extremely fast to render. Separate Hair system was set up for body, hair and ears to have the look of a real highland cow. I used the comb tool to groom the hairs. Then I added Ox Hair Frizz and Curl modifiers to the stack to add some curliness. The body, head and ears had about 40000, 10000 & 4000 hairs respectively. The Ox Hair Cheap Shader was used for the all the hair. The textures for shirt, body & horn were made in Photoshop (Fig 08 & 09)

Lighting I used 2 spot lights, one from right and the one from back. Both had Ox Raytraced Shadows. In the environment rollout, I added the Ox Hair Raytrace fast effect and added all the hairs to it. The background image is a sky wallpaper from www.deviantart.com, which I used some cloud brushes to custom paint some more clouds.

Rendering I used the Default Scanline Renderer, since V-Ray would crash with the ornatrix plugin A Catmull-Rom filter was used to show off each hairs and the final render took only less than five minutes. The final image had some small tweaks in Photoshop, like adding a bit of glow to the hair tips etc. and that's all. Thank you for reading, I hope you will find this making of helpful.

PRAVEEN V.S.

For more from this artist visit : www.praveen3d3.cgsociety.org

Or contact : praveen3d@gmail.com

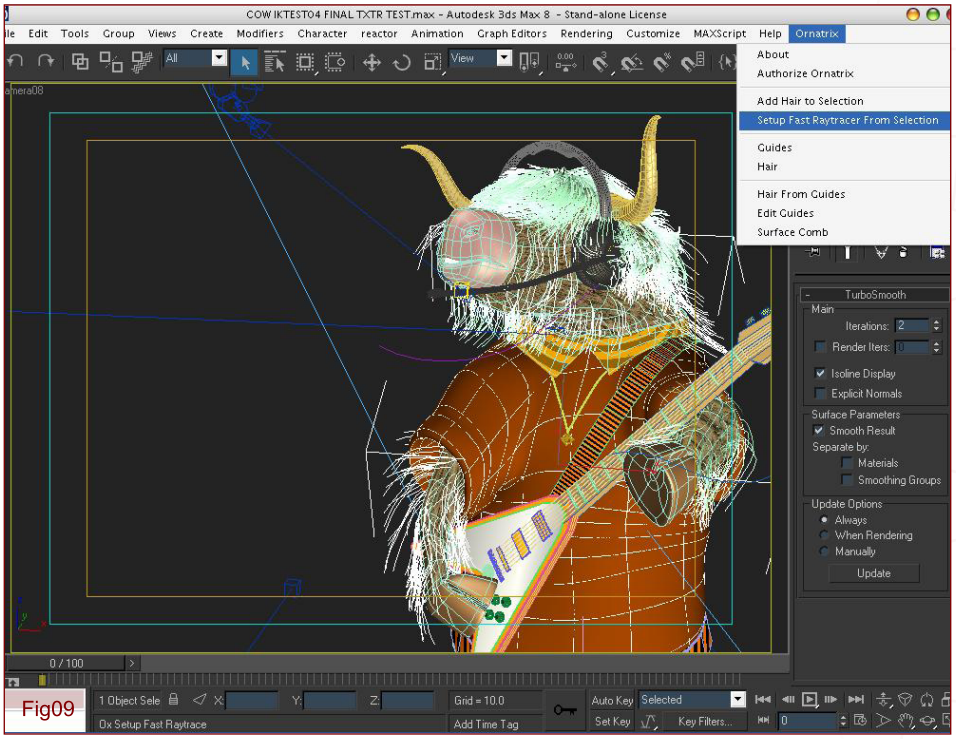


Fig09

3RD Kuriouz

The whole idea behind this image was to create a stylised version of a highland cow for a competition held at threedy.com. You can check out every months competition in 'stylised animal challenge', which sponsored by Zoo Publishing Magazines and 3DTotal. The idea of this competition is to is create a 3D render of the given animal in a stylized/abstract/cartoon style whilst keeping your creature instantly recognizable.

Concept

All great models begin with a concept sketch, even if it just mere doodles or lines on a back of an envelope. So here was the first basic sketch of the character, taking into consideration that it should be unique and different but yet still retain qualities of a cow. A good thing to do is to note down unique features of your concept model. I usually write down little notes on my sketches. (Fig01)

Fig01

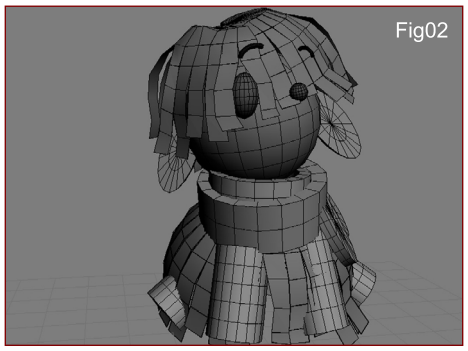


Fig02

Modeling

For this piece, I already knew that I will not be animating the model so I decided to model the character in 'pose'. Initially, I set up some basic shapes as place holders to form the character to provide just a basic idea of its posing and general shape and size. (Fig02). As you can probably see, the body parts are all derived from basic shape objects. The head started of as a sphere with the nose/snout and horns extruded. The mouth area was created by adding a few more lines and then manipulating the vertices to create the pout. Ears were made using simple box modelling and the legs and hooves were originally cylinders. The scarf was built from pieces of planes and then arranged to drape around the neck and also to rest in the mouth area to make it appear that the cow was biting on the scarf. A shell modifier applied later to thicken up the scarf. (Fig03). The 'hair' on the head and the body was built from a sphere which was sliced in half and its edges extruded as shown in the following image. The edges

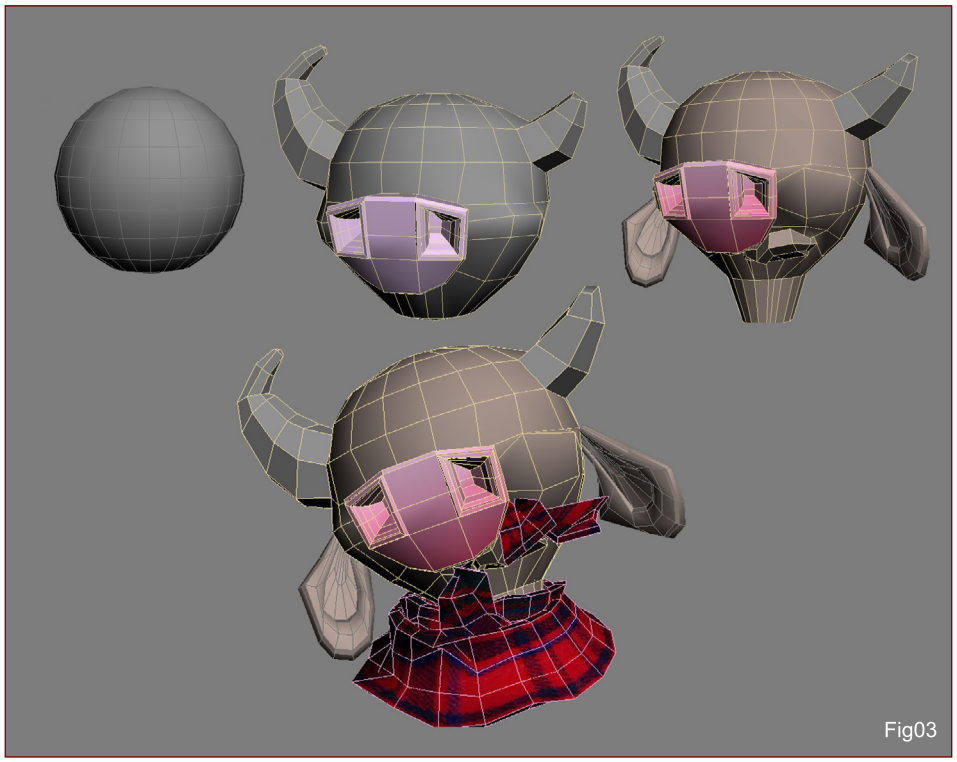
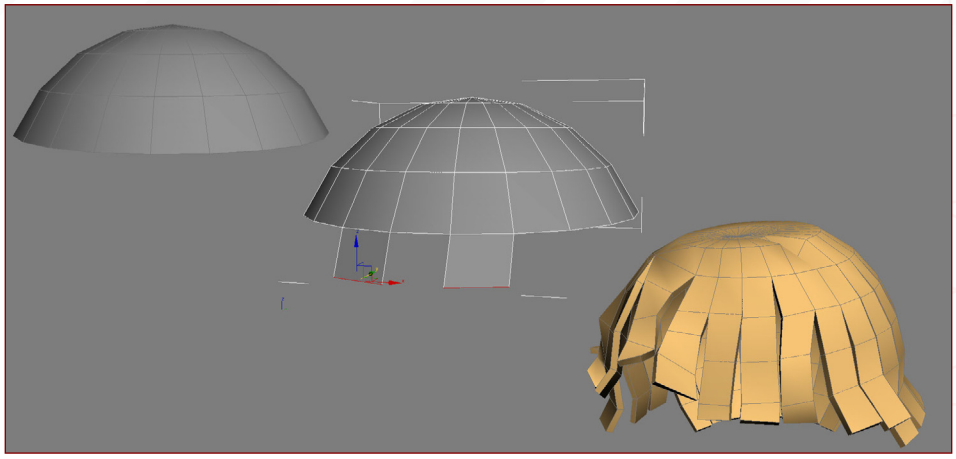


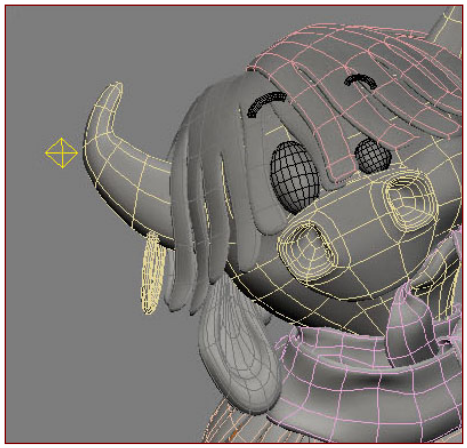
Fig03

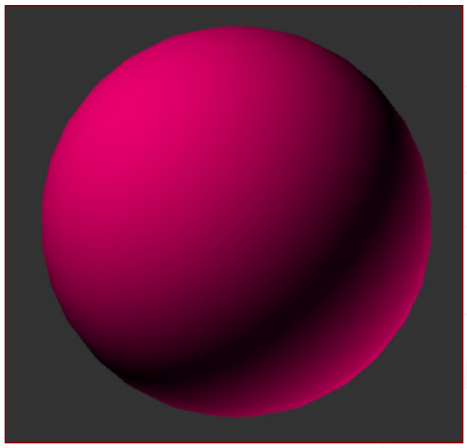
are then simply moved around to have different lengths and style. (Fig04 & 05). Well, every cow needs some nice green grass. So naturally there was grass in the scene and this was built using the Hair & Fur plugin in 3D Max. To complete the picture, a nice background and a few little feathered friends were added into it.

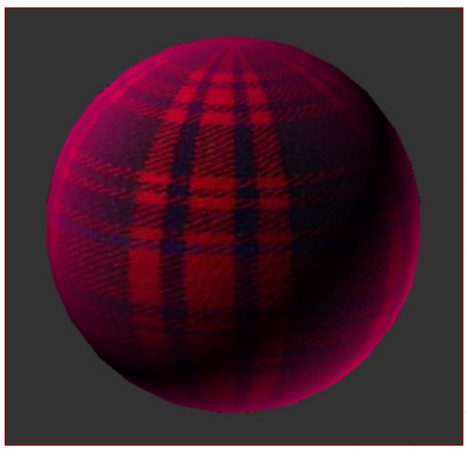


Texturing & Lighting

For this character, I used a lot of blending effects between 2 materials with a falloff map as the mask. Depending on the type of falloff map you use, this can create a nice fusion of materials which is nicely reflected on the edges of the model. For example, the texture of the scarf was a blending of a tartan material and a dark pink colour with a falloff map to create a nice pinky hue at the edges. (Fig06). The lighting system was simple. I arranged 5 omni lights to illuminate the scene with the main light being a soft yellow colour to cast a morning-like sun glow. I also added some post-effects glow in 3D Max to illuminate the character. That's it! Here is my highland Cow! Hope you have enjoyed reading the making-of this scene.







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THE GALLERIES

This Month Featuring:

Benjamin Brosdau

Ilan Cohen

Rodrigo Lloret

Kevin beckers

Pascal Blanche

Jonathan Simard

Wade Muller

Suresh Kumar

Jack Zhang

& Alexander Pronskiy

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You can follow the 'making of' this image in the April issue of 3D Creative magazine

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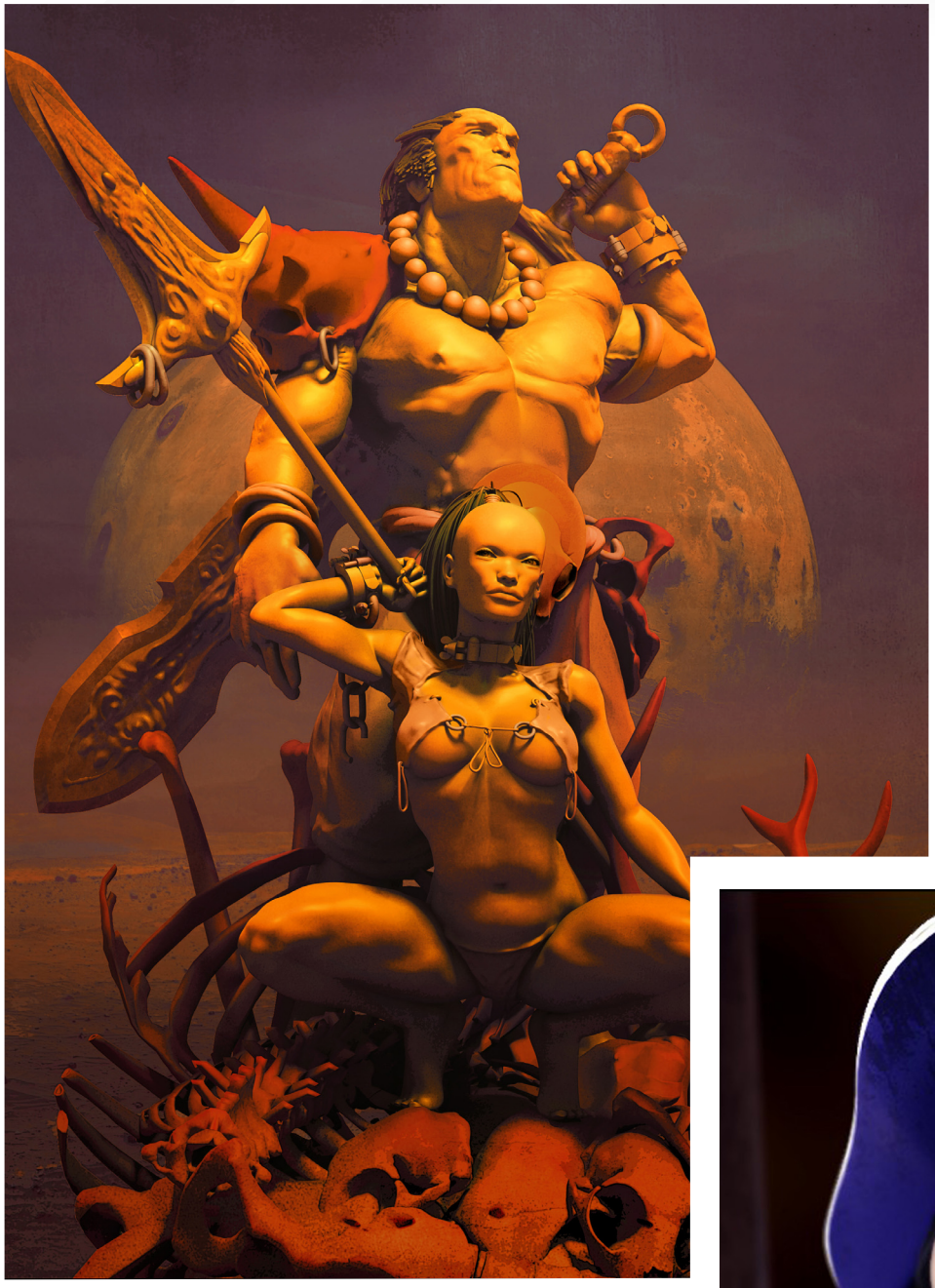

HUNTERS

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You can read an in-depth interview with this artist in the April issue of 3D Creative magazine.

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You can read an in-depth interview with this artist in the April issue of 3D Creative magazine.

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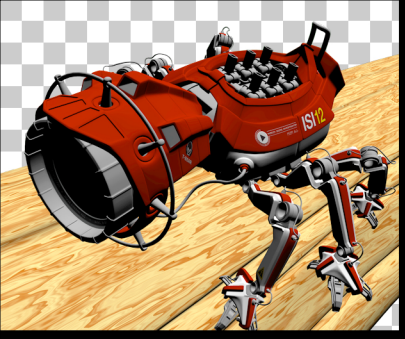

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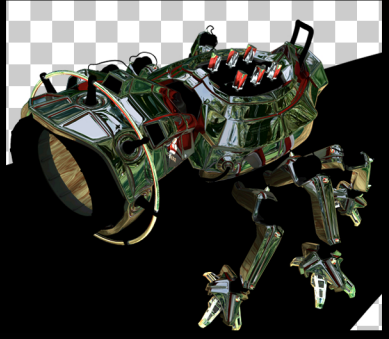

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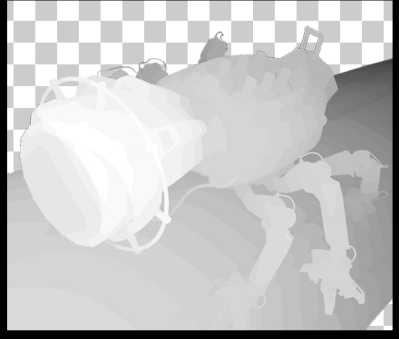
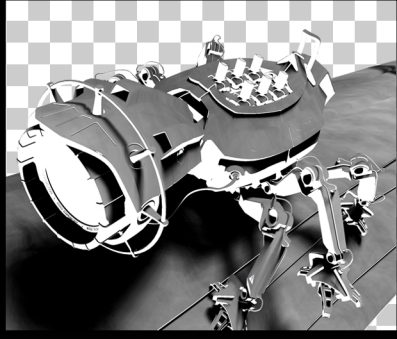


DEPTH



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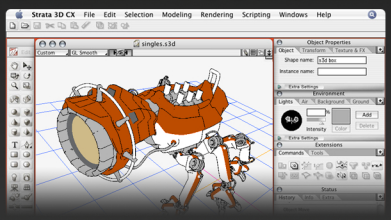

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This Month :

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THE 3D STUDIO

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How Photography and the Art of Composition can inform the Artist

In the following article, Cetin Tuker discusses the merits of photography and traditional techniques with a view to producing more realistic and convincing 3D renders...

"Less is more" is a sentence to be heard several times in art education. Although in some art movements it has changed to "less is a bore", but this also does not mean that a composition made of a lot of objects scattered around means more than a few objects which are placed in the "right" places."

How PHOTOGRAPHY AND THE ART OF COMPOSITION CAN INFORM THE ARTIST

Cetin Tuker works as an architect and, having mastered 3D software to render his architectural visions, realised that, despite the accuracy of the models, there was something missing. After enrolling on a photography course he discovered the importance of aspects, such as composition and framing, and realised that the difference between producing good and great images is often an artistic issue and not purely a technical problem. *-Zoo Publishing*

I started 3D by visualizing architectural projects when I was working for an architectural office in 1991. Those days I was in the fourth year of my university education and I was just wondering if I could model the physical form of the building as closely as possible, as it is planned by an architect. In time, as I modelled more and more projects, I mastered a lot on the modelling software. After two years, creating an architectural model was no more a challenge for me. Actually, yes I was creating correct and highly detailed models, but it was obvious that something was still missing... My 3D models looked like scale models made of cardboard and photographed on an infinite table. Actually they were not looking "tasty". My boss, who was a talented and experienced architect, called my models "mechanic", "unnatural" and "synthetic". Those days, they were taking photographs of the scale models to present buildings to clients. In the following years, I thought a lot about these words "mechanic", "unnatural" and "synthetic". My question was: although I was modelling them almost perfectly, why were my models looking mechanic, unnatural and synthetic? One day I attended a photography course for beginners. At the beginning I thought I was lucky because I was using 3D software so camera and lighting techniques were not new subjects for me. However, after a few weeks, I realised that whilst working in 3D I had never thought about composition, framing and the meaning of the image that I was creating. I mean, I was training a lot in the technical side of 3D but completely forgetting to think about the artistic side. And actually, the artistic side of the image is related with the design and it transfers feelings from the designer to the viewer. Recognising this was not a big step for the human being but it was actually a big step for me, on the way to understanding what is "natural" and "photo realistic". Although at first glance 3D looks like a very technical and mathematical phenomenon because software, like CAD, is used to create application drawings of construction or mechanical projects, actually it is highly related with art and traditional techniques. In some cases, 3D looks like sculpture (I do not mean modern, sculptural art of course) because a 3D artist creates 3D objects in a virtual environment using his/her material (polygons) and this can be called, "sculpting". In some cases 3D looks like architecture, because environment is everywhere - we can not delete it from existence. A 3D artist always designs an environment. In some cases 3D is related with animation (and music, because of the rhythm of the motion in animation), and of course cinematography. Finally, in most cases, 3D looks like renaissance paintings (from a time when photography did not exist), and photography. The works of 3D artists mostly look like they have been created in a cross disciplinary art studio. To achieve the planned frame, a 3D artist creates/designs/plans the final image in his/her mind; plans the work flow and uses the computer, like a technician; models objects and figures, like a sculptor; creates textures of objects, like an illustrator; places the camera and selects the proper viewing angle and places the lights to create the atmosphere and emphasise the subject, like a photographer. However, the meaning is always hidden in the first and last steps of this work flow. These are planning the final image, placing the camera, deciding the frame, and creating the lighting to create the atmosphere and emphasise the subject. Actually, these are the main elements of photography. In this case, I believe that we can call 3D, "photography in a virtual environment".

Photograph 1a

Photography not only documents the existing condition of space, objects, or situations, but also transfers a feeling, or information, which is reminiscent of a feeling, narrated by colour, characters, lines, forms, and mostly light. In this case, a 3D artist who is also interested in photography can transfer the traditional techniques and artistic background directly to his/her 3D works, or vice versa. Now, as a 3D artist who is interested in photography, I want to discuss 3 of my photography works and 2 of my 3D works, according to these traditional techniques and bilateral transformation of traditional knowledge between photography and 3D.

PHOTOGRAPH 1

Keep searching until you find the best light, composition and point of view. I took this photograph when I was on my summer vacation in 2005. The location is Bodrum Turkey, a small town which has a beautiful sea and sun. I always get up early in the mornings in Bodrum because I know I can find many subjects to photograph. At 8 o'clock in the morning I can find a silent beach and good lighting (which is very important for photography). That day I decided to take photographs of the boats on the sea, so I took my 90-300 tele-photo lens with me. I don't like carrying heavy photography bags in the mornings, so I always decide what to take with me beforehand and carry only the necessary equipment with me. After a few minutes I took the first photograph (Fig 1a). The blue sea reflects the light like silver, and a vivid red coloured boat sits on the sea. But my first try was not that successful. The direction of the light is not perfect, so the shadows are too dark. The vivid red colour lost its strength, and the silver effect of the sea was not as strong, either. After 15 or 20 minutes, I took another picture of the same boat. This time it was from a different direction: better light, better point of view and the boat is closer. This time the shadows are not too dark and the composition is better (Fig 1b). I did not stop searching there and I walked to another place. Suddenly, I saw a smaller boat coming from the open sea into the bay. From the place I was standing, the sea had a beautiful, silvery look. The sea was reflecting the white buildings located around the beach and it was making the sea's surface look lighter in colour. The small, red boat, the contrasting blue colour of the sea's surface and the silvery look, all created vibrant colours. The man on the boat was concentrating hard on his work and I thought this feeling could be transferred to the viewer. I took the Photograph 1c and later made a little framing on the final result to cut unnecessary things on the upper part of the photograph and to see the boat a bit larger (Fig 1 Final). I wanted to keep it very simple. I just want to say only one thing here, so I must say it directly: I have sent the "noise" to the garbage bin. Finally, I put the boat and the fisherman on the upper left part of the image - this is the 1/3 rule. That point is the first point where I will start viewing this image. Whilst working in 3D, we have to search for the best viewing angle. We have to create many cameras in the environment and take renders from them. Then we have to judge the images according to traditional composition rules. Contrast and the 1/3 rule are just two of them. Lighting is the other important thing. Whilst taking photographs in nature, we cannot change the location of the Sun or other objects. But in a 3D environment we can do this. So DO THIS. Plan what you want to see, create and place your lights, locate your camera and shoot!

Photograph 1b


Photograph 1c


Photograph 1 Final

PHOTOGRAPH 2

Cut out unnecessary things from the frame. “Less is more” is a sentence to be heard several times in art education. Although in some art movements it has changed to be “less is a bore”, but this also does not mean that a composition made of a lot of objects scattered around means more than a few objects which are placed in the “right” places. A successful composition must be simple. Our aim is to create a composition which attracts viewers’ eyes to the centre of attention. This can be a colourful spot on a black and white background, or the face of a man which is full of meaning. I mean that, whether we take a photo or create a 3D composition, the viewer will ask why this image has created. We have to give the answer to the viewer immediately and clearly. But of course we are searching for an aesthetic way whilst giving this answer to the viewer. In this example (Fig 2a), there is an unnecessary triangle on the upper left corner of the image. And the black silhouette located in the middle of the image, looks like a longitudinal line. So it would be better to emphasize this line whilst framing. In the final image (Fig 2b), I cut the triangle on the upper, left part and also, to emphasize the longitudinal line, I preferred the proportion close to ½, whilst framing.

PHOTOGRAPH 3

1/3 rule: I took this photograph in the Ortakoy district, in Istanbul. We see Bosporus bridge in the distance, which connects the European part of the city to the Asian part. As we come close, we see Ortakoy mosque and a small harbour for boats. This place is very popular for young people and tourists. Coming to the photograph, I tried to put the mosque to the upper left 1/3 of the composition (marked with a green ellipse). This is the first point of the composition where a viewer will look. The second point will be the upper right 1/3. A very common mistake is to put the most important subject in the composition at the centre of the image. Actually, that gives a static and boring feeling and it occupies all the space around, so we can not place any other subjects around it. In this example, I also tried to give an affect of depth by creating 3 zones. These are the boats, which are the closest zone; they are not the most important subjects in this composition, but they are emphasising the zone which is very close to the camera and also make the dark blue of the sea look lighter. The second zone is occupied by the mosque, which is the main subject of this photograph; it is in the mid-part - not too close, not too far. It is also located in the most


Photograph 2a

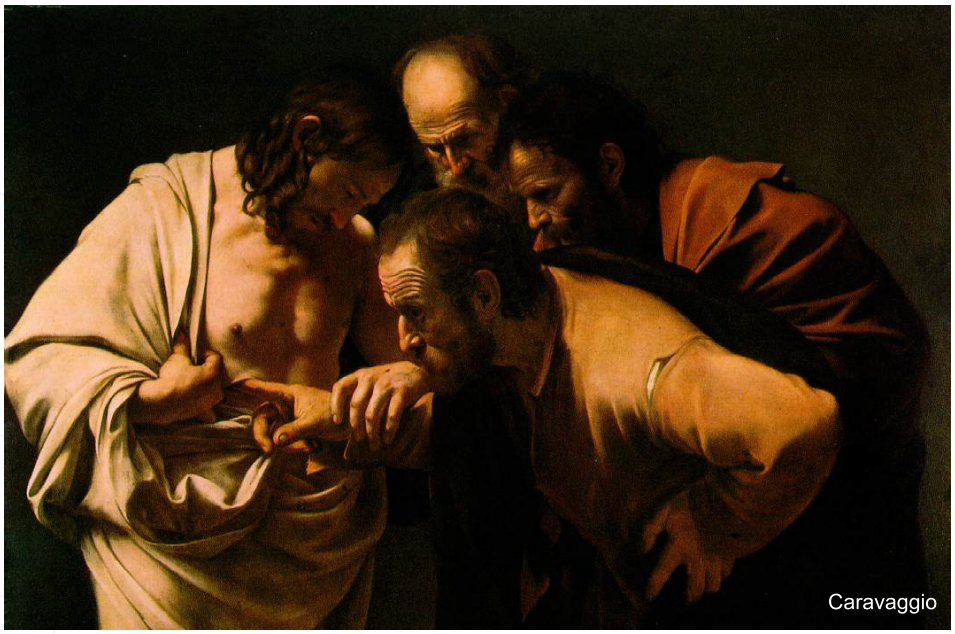

Photograph 2b

important point of the composition. The third zone is the Bosporus bridge, which is located in the distance, and looks like the background. Because of the distance, the colours of this object turned to blue (this is called an "atmospheric perspective" effect), so the colours are not that strong. Also,


Photograph 3


Photograph 3

it is not "stealing the stage", away from the mosque. This photograph does however have some unwanted issues, which are the incomplete boats which have been marked with red arrows.


Caravaggio


Osman Hamdi Bey

3D Works

In my 3D works, I will try to explain how I use the traditional techniques of photography and renaissance painting. I have chosen 2 of my works, “Sad Street” (3D Work 1) and “Vaulted Street” (3D Work 2), from my Street Series. These are variations of each other.

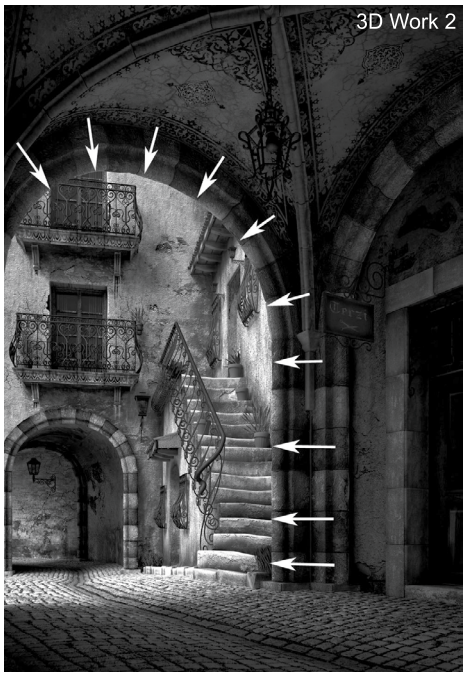
3D Work 1

The primary idea for this image came from a real photograph that I had seen a number of years ago. That photograph included an arch and a door facing it, with several pots scattered around made of terra cotta. I never completely copy a photograph in my works, I am only influenced by them. I thought the contrast between the slightly shaded atmosphere of the area covered by the arch, and the well-lit area in front of it, including the old wooden door, would be a subject matter to catch the eye. The smooth shadows and the slight blue colour that comes from a cloudy sky would add a silent and calm atmosphere to the composition. All the other elements are carefully placed in the scene to bring out rich shadows and depth. In my works, I always try to use the “light” as a design element. I use shade and shadows, and most of the times I locate objects to create shade and shadows, in proper places. In this example, I use the dark area bordered by the arch as a dark frame to emphasize the warm, Mediterranean daylight. As I am living in Turkey, I have hot, Mediterranean blood and I like the warm light of this region. Light is not an element just to make objects visible, but light and dark gives meaning to objects and it is a part of the composition. My favourite painters who use light as an element of composition are Caravaggio (Fig Caravaggio), Vermeer van Delft (Fig Vermeer van Defft (see p90)), and Turkish painter Osman Hamdi Bey (Fig Osman Hamdi Bey). Every county in the world has its own lighting. Northern countries have a different light colour and composition, Africa has another light colour and composition, Great Britain can often be dull and wet, Turkey is sunny, Norway is very cold, Australia is too hot, and so on…

3D Work 1

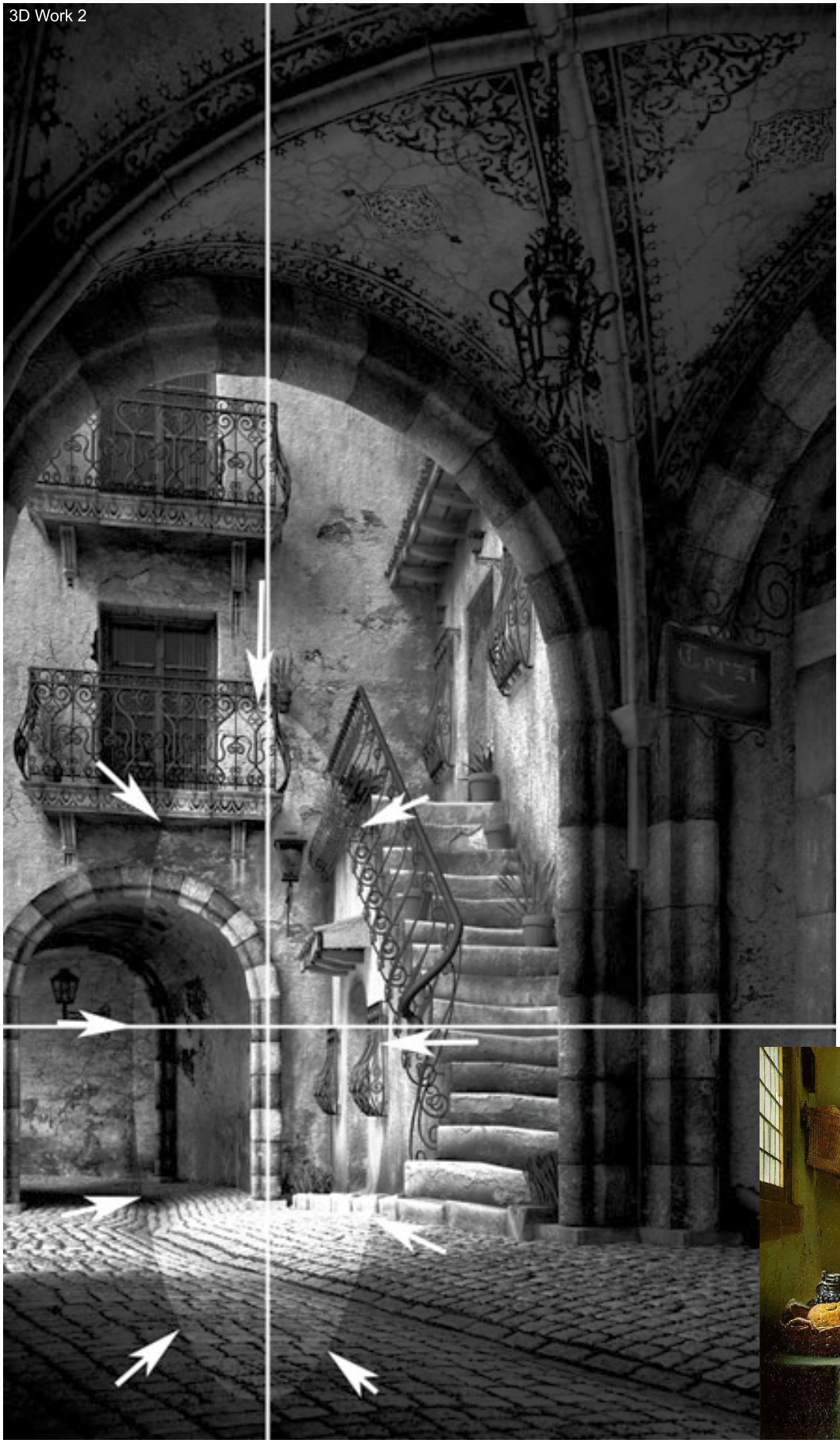
Also, all countries have their own cultures and colour schemes. The mixture of the “colour of natural light” and the “colours of cultures” give very different light schemes in all different parts of the world. So, use light in your compositions. Always start with a lighting scenario in your mind and try to transfer your feelings by using light. Do not just light your objects, but give a meaning to them!


3D Work 1

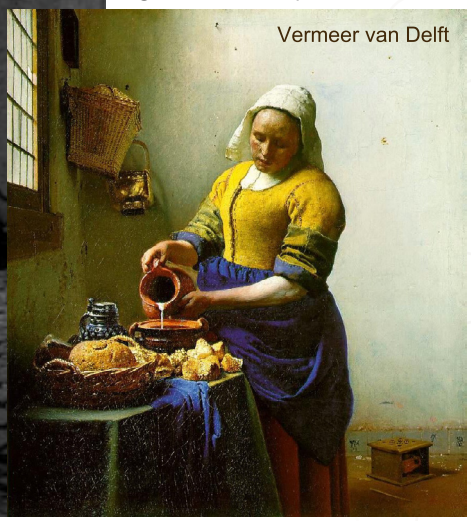


3D Work 2

As I said before, lighting is a part of design. Don't forget this, and don't leave it until the end. Be aware that light gives life and atmosphere to your design - think of it in the very beginning. Make changes on the model if necessary to give the right ambiance of shade and shadows. In this work I tried to use the light as a design element, and this is same warm, Mediterranean light. On the other hand, the points where you put cameras, and even field of views of the cameras, are very important too. Camera location, angle and field of view will affect the framing (Fig Alternatives (see p91)). There can be very, very small differences in the photographic composition, but the eye can feel comfortable in one but disturbed in another. If we are talking about camera placement, there can be just 5 centimetres between an artwork and rubbish. A common mistake is distorted, vertical lines because of the camera's viewing angle. If the target of the camera is placed a bit higher or lower than the camera itself, we see vertical lines becoming distorted. If you are aware of this, you can use this as a design element and it can give good results. But most of the time, these lines create unwanted triangles near the edges of triangles. Professional architectural photographers use expensive lenses to correct this distortion. We can also use camera correction modifiers in our software packages. In this example, again I tried to create a dark frame around a well-lit street, and gave a wall some interesting balconies. The light and dark coloured stone, which carries the ribbed vault, also emphasises this framing



effect. Actually, here, I created a "picture in picture" effect. Another common problem is to decide on the direction of the framing: vertical or horizontal? In the silhouette example, framing was horizontal because of the horizontal lines. In the Ortakoy photograph, framing was vertical because of the vertical composition. Actually, minarets of the mosque and large carriers of the bridge created vertical lines. In this example, we see long vertical lines which catch the viewer's eyes and carries them to the inner surface of the vault, where we can see nice decoration elements. Actually that is not the focus point of the composition. That is a secondary element, but it helps the vertical framing. I think there is also something missing there. In the focus point, the lower, left point according to the 1/3 rule, I think it needs a subject there. It can be a figure or figures. This will bring life to this silent, vaulted street. These figures can be a donkey carrying something and its owner. Maybe children running after the donkey and playing and laughing to it, and maybe a child sitting on the stairs watching them. Yes, figures always give life to a composition.




Alternatives

CETIN TUKER
For more from this artist visit:
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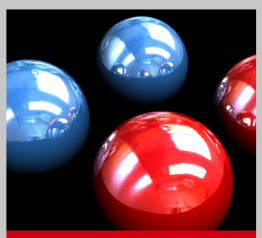

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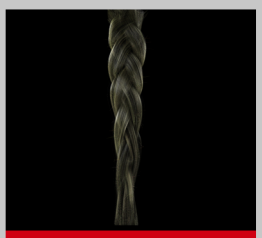

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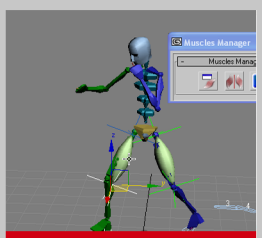

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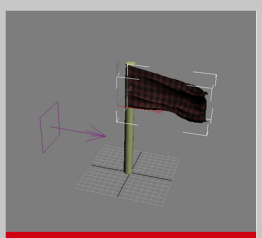

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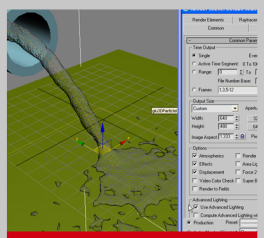

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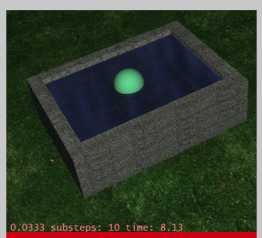

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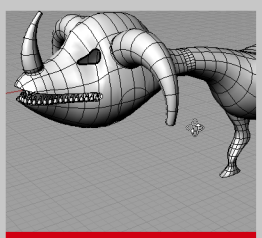

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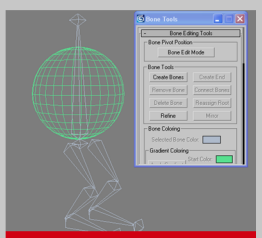

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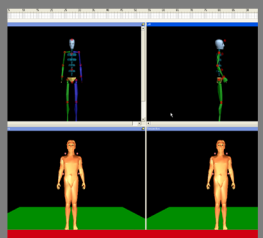

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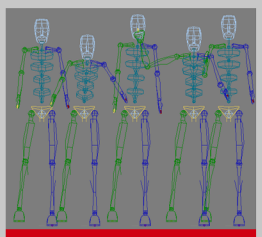

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"I AM A BIG FAN OF THE MOTOGP SERIES BUT FOR SOME REASON I DIDN'T WANT TO MODEL A HIGH-TECH MODERN BIKE".
Vespa
150GL
In the past Jure Zagoricnik has modelled a few cars, but never a bike. So when a Slovenian 3D website posted a challenge called "Motomania" it was the perfect opportunity for Zagoricnik to test his skills. Follow the Making Of to find out how he created, "Vespa"...

Vespa 150GL

Created In:

3DS Max (modelling), Vray (rendering), Macromedia Flash (texturing), Photoshop (post)

Introduction

I am a big fan of the MotoGP series but for some reason I didn't want to model a high-tech modern bike. I Googled for some older bikes and when Vespa popped up I knew right away I wanted to model this baby. I did my research and checked out quite a few models and decided on a 1962 Vespa 150GL.

Getting Ready

The first thing on my list was to find some decent blueprints. I searched and searched, and searched some more, but couldn't find anything. There was nothing else to do but to look for some decent side, front and back photos. In the end I settled for a side view and collected as many photos as possible from all possible angles. Luckily, old Vespas are still popular and many people dedicate their life to restoring them. With plenty of reference material I went through all the pictures and checked out the different parts so that I could make a work plan. Apart from the engine and some small bits here and there I didn't see anything particularly difficult. With a rough plan in my head I proceeded to the modelling.

Modelling

I am most comfortable with poly modelling so I used this technique to model 95% of the parts. I usually start with a basic shape like a plane, cube or a cylinder. Symmetry modifier is a must for me so every object is only modelled in half. Not only is it faster but also easier to change things later on. As I didn't have any blueprints I used a photo for reference and proportions. Lately we are just so used to having blueprints for everything that we don't really appreciate them anymore. Well, not having them makes everything twice as hard. One keeps guessing himself if what he is doing is correct or not.
I started with the handlebars, roughing the shapes with as few polygons as possible. When I was happy with the shape I started to do the details, or as I call it, the "fun stuff" (cutting, connecting, moving vertices, etc.). Many people just model an object so that it looks right, but I personally like to stick to quads (triangles are evil). They look cooler and are "subdivide friendly". Not to mention you can ring and loop them without having to manually select the edges (Fig.01 & 02). With the details on the handlebar, I continued with the body. This is where I had to use splines for the chrome piece that runs all around it. What I did was to select

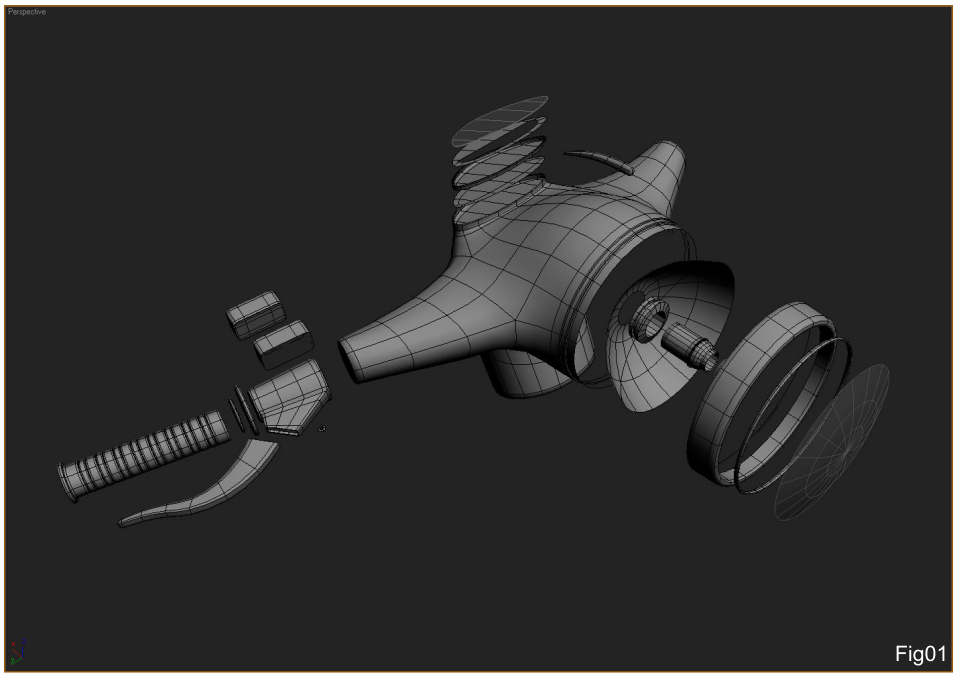
Fig01

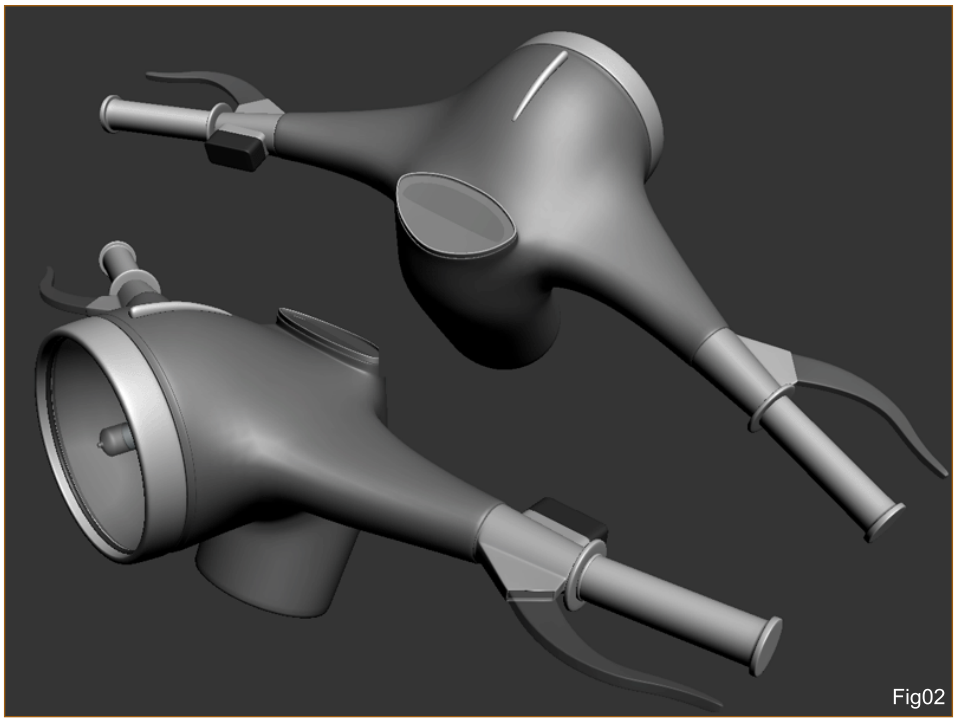
Fig02

the outer edge of the object and convert it to a spline. The rest was just checking the box so that it would render, and setting the thickness (Fig.03). With the body mostly finished I decided to do the seat - well two of them. Doing the basic shape wasn't that difficult. Instead of using a texture for the stitches I wanted to model them. With this in mind I selected the edges where the stitches would go, and converted them to splines. These were my guides. Then I modelled a single stitch (bent cylinder) and used the spacing tool to evenly distribute the stitches along my spline guides. I ended up with a decent layout that didn't require a lot of tweaking, mainly just rotating a few stitches

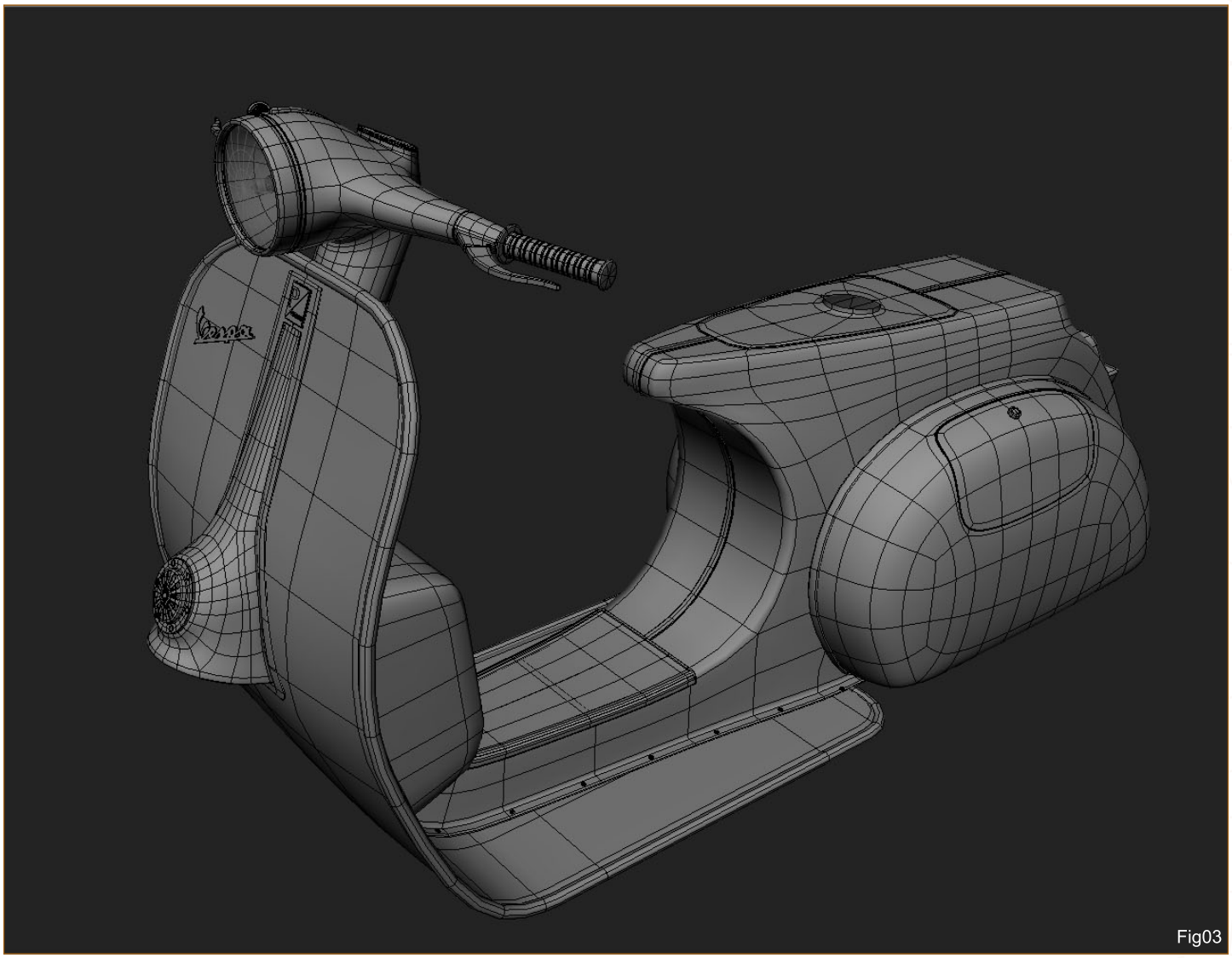
Fig03

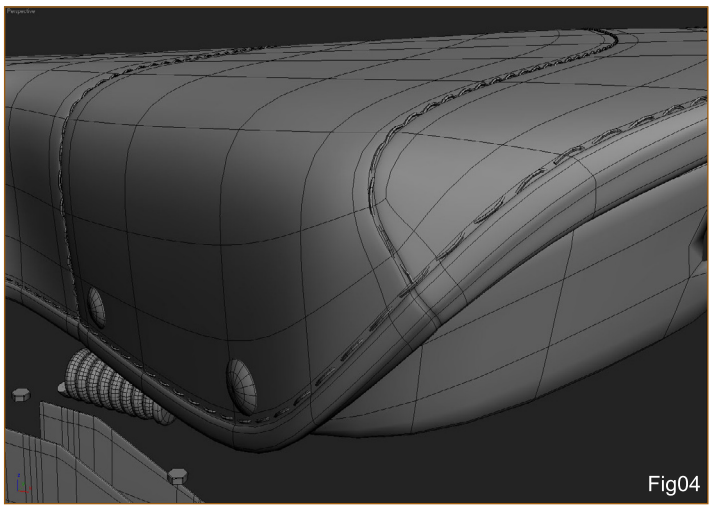
Fig04

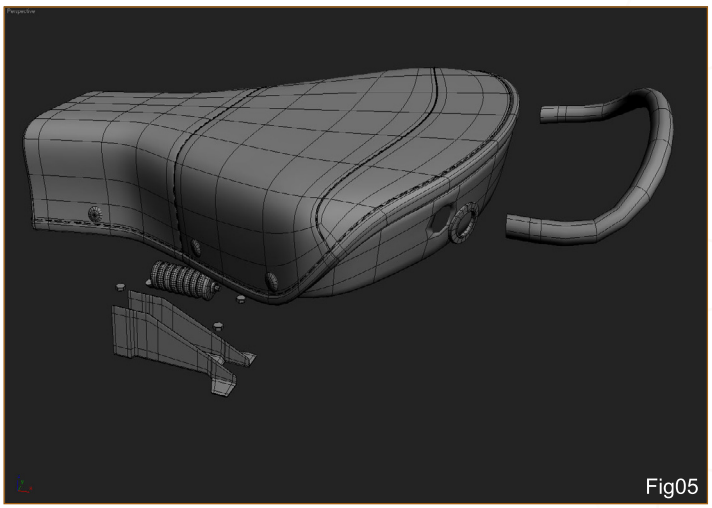
Fig05

and moving a few of them around the corners of the seat (Fig.04 & 05). The tyres were next. I usually model the tube and the thread as one piece, but this time I decided to do each piece separately. This cuts down the poly count quite a bit. The tube is just a basic cylinder and the thread was made using splines that were later on extruded. To fit the thread to the shape of the tyre I used the bend modifier, with some hand tweaking. Once they were aligned I just arrayed the thread, merged all the pieces into one and used another bend modifier to fit it all around the tyre. Just remember to set the pivot point of the thread to the centre of the tyre. Logos and signs were made by importing vector versions and then extruding them. To get rid of the 90 degree perfect edge I usually bevel the top polygon inwards and extrude it just slightly (Fig.06-09).

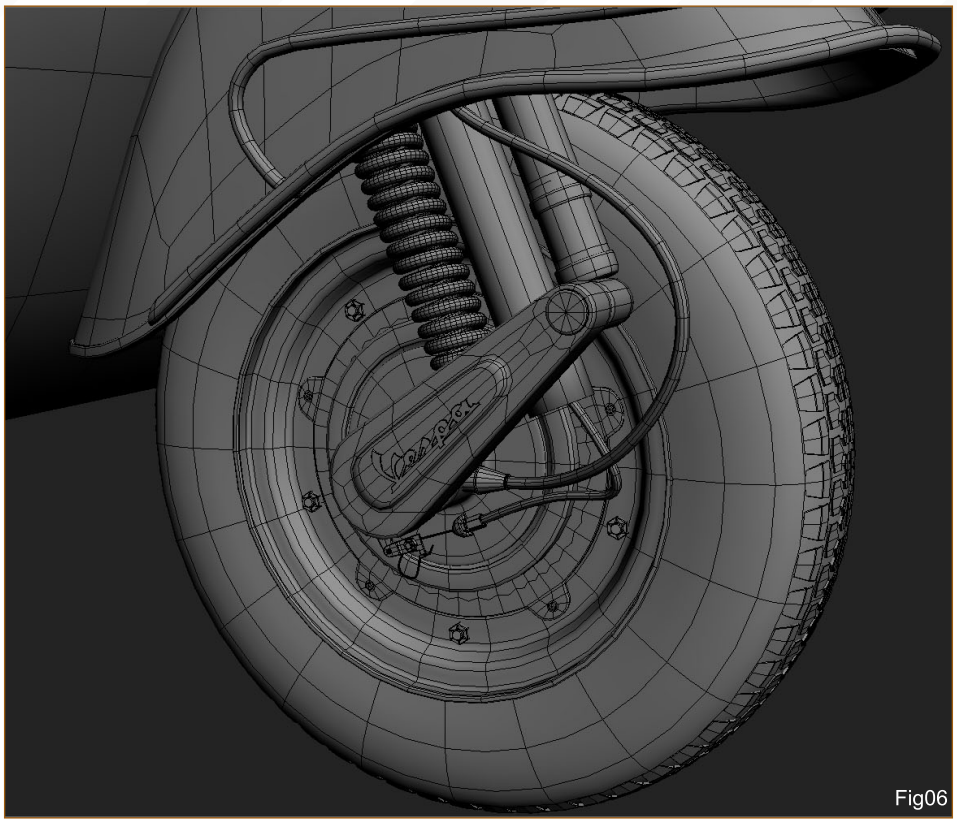
Fig06

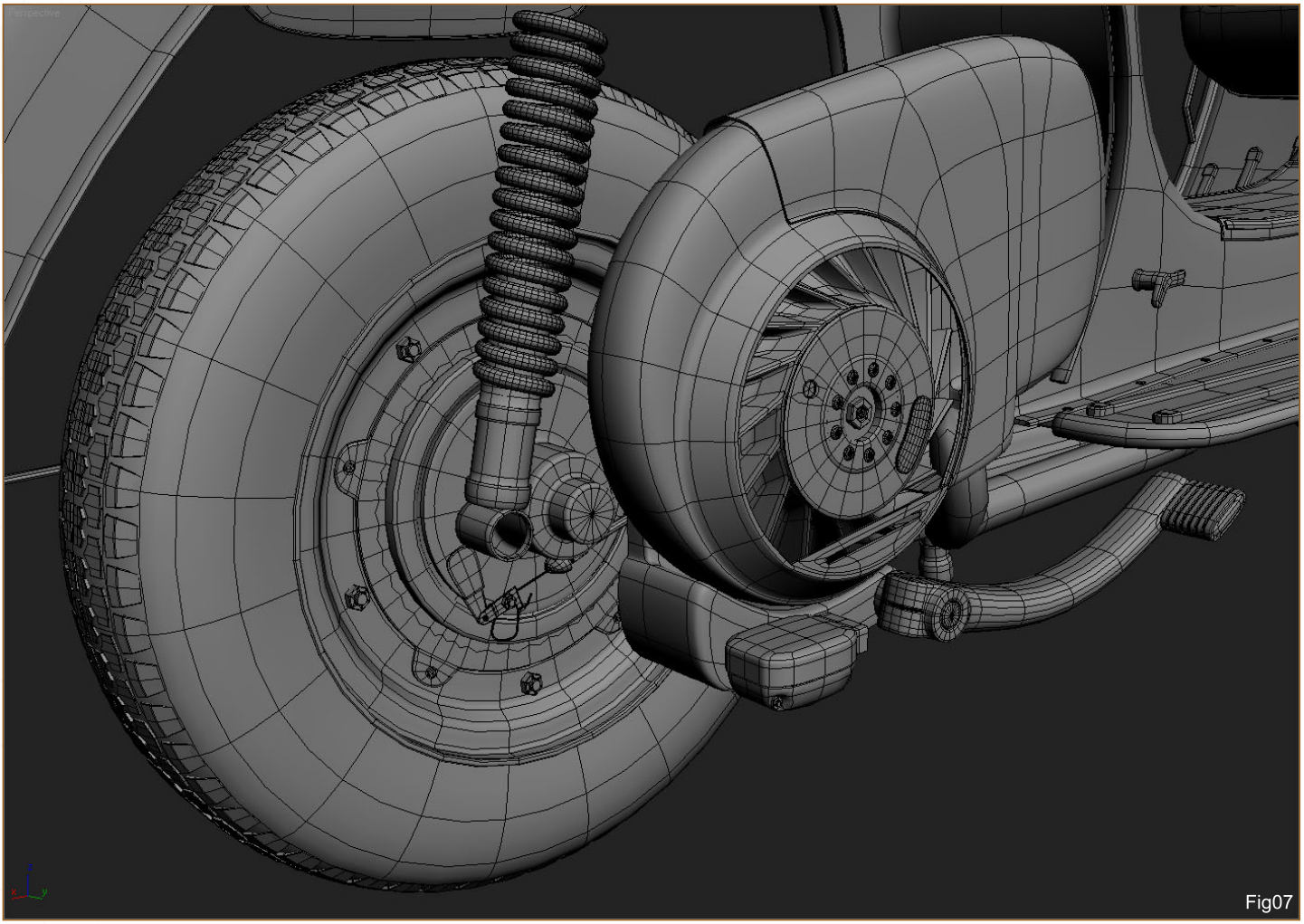
Fig07

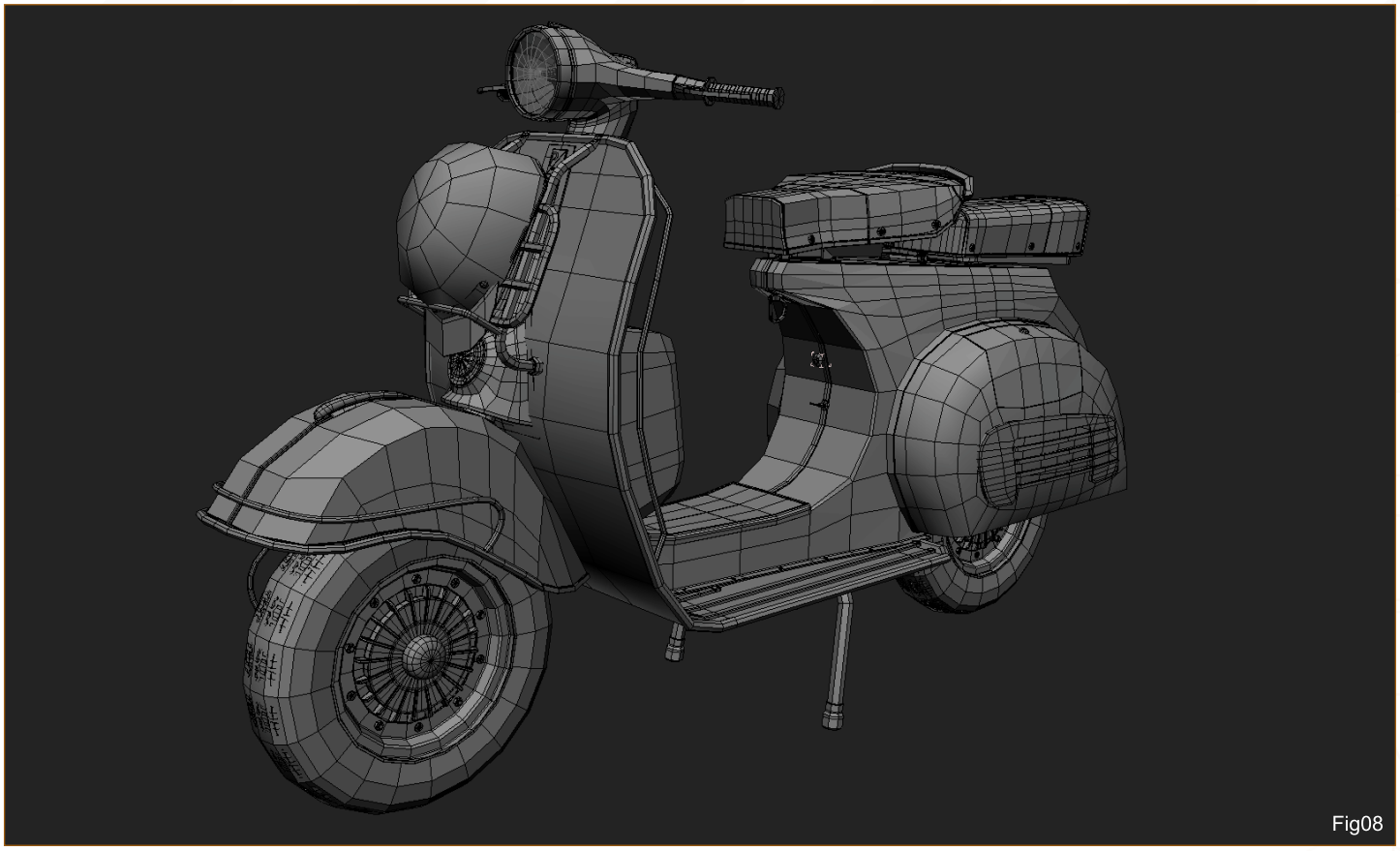

Fig08

Fig09

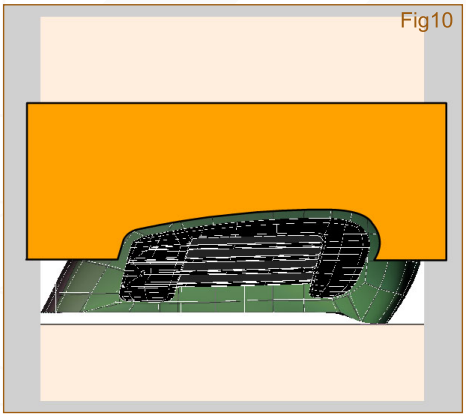
Fig10

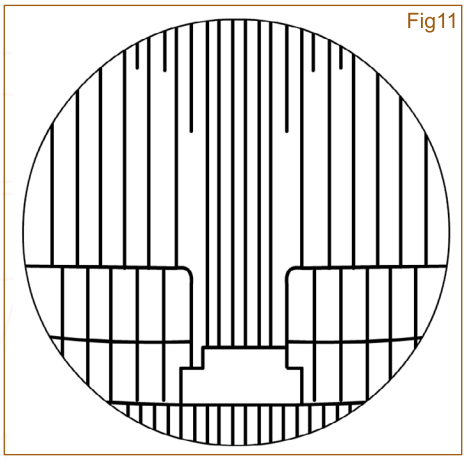
Fig11

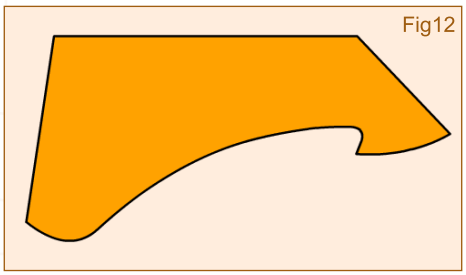
Fig12

Texturing, Shading and Lighting

With all the pieces modelled I quickly unwrapped a few parts that were screaming for a paint job. I just used planar mapping, exported the maps and brought them into Macromedia Flash. Flash, you ask? Yep. I do a lot of Flash work in my full-time job so I guess I am just used to it now. Plus, vectors are scalable without losing the quality which is another plus if you want to up the resolution. The paint scheme was pretty straight forward, I just outlined the patterns and filled them with colour (Fig.10-12). For leather, I used a texture that I found on the Net (don't remember where, right now). Most of the shaders are basic Vray materials with different reflection and glossiness values. I am far from being a materials guru - I mostly go for the trial and error method. It takes a while but you can learn a lot (Fig.13-15). With studio lighting in mind I had a few concerns as this bike has a lot of reflective materials, not to mention chrome parts. You know what they say: reflections bring materials to life. I never use HDRI for lighting so my collection of HDR maps


Fig13


Fig14


Fig15

was very limited. Luckily I managed to find a few free ones and modified them so they worked for me. In the end I had three HDRI maps (colour, grayscale and colour blurred). With the colour HDRI in the environment reflections map I started to tweak materials. Parts that I wanted to control the highlights got their own HDRI map in the environment slot. To get them just the way I wanted meant a lot of test renders whilst rotating the HDRI. It was well worth it in the end. For the lighting I used one big Vray light above and two omni lights below the motor. Latter ones were to brighten up the bottom part that didn't receive a lot of light (Fig.16). I used a default Max camera to render the scene. For the background I created a simple plane that rose up behind the bike to create a soft transition (Fig.17).

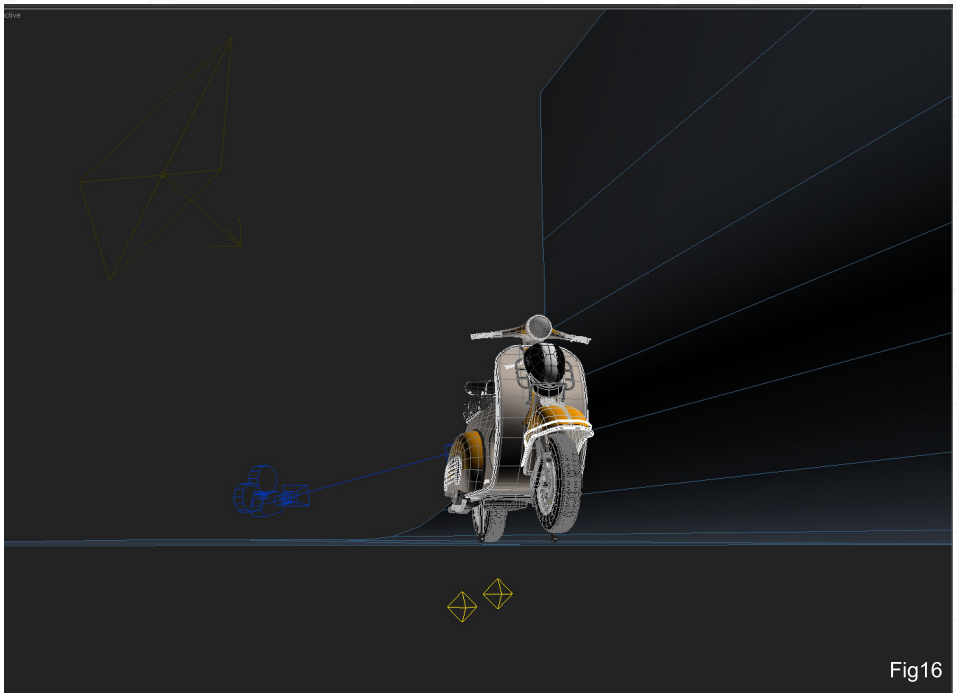

Fig16

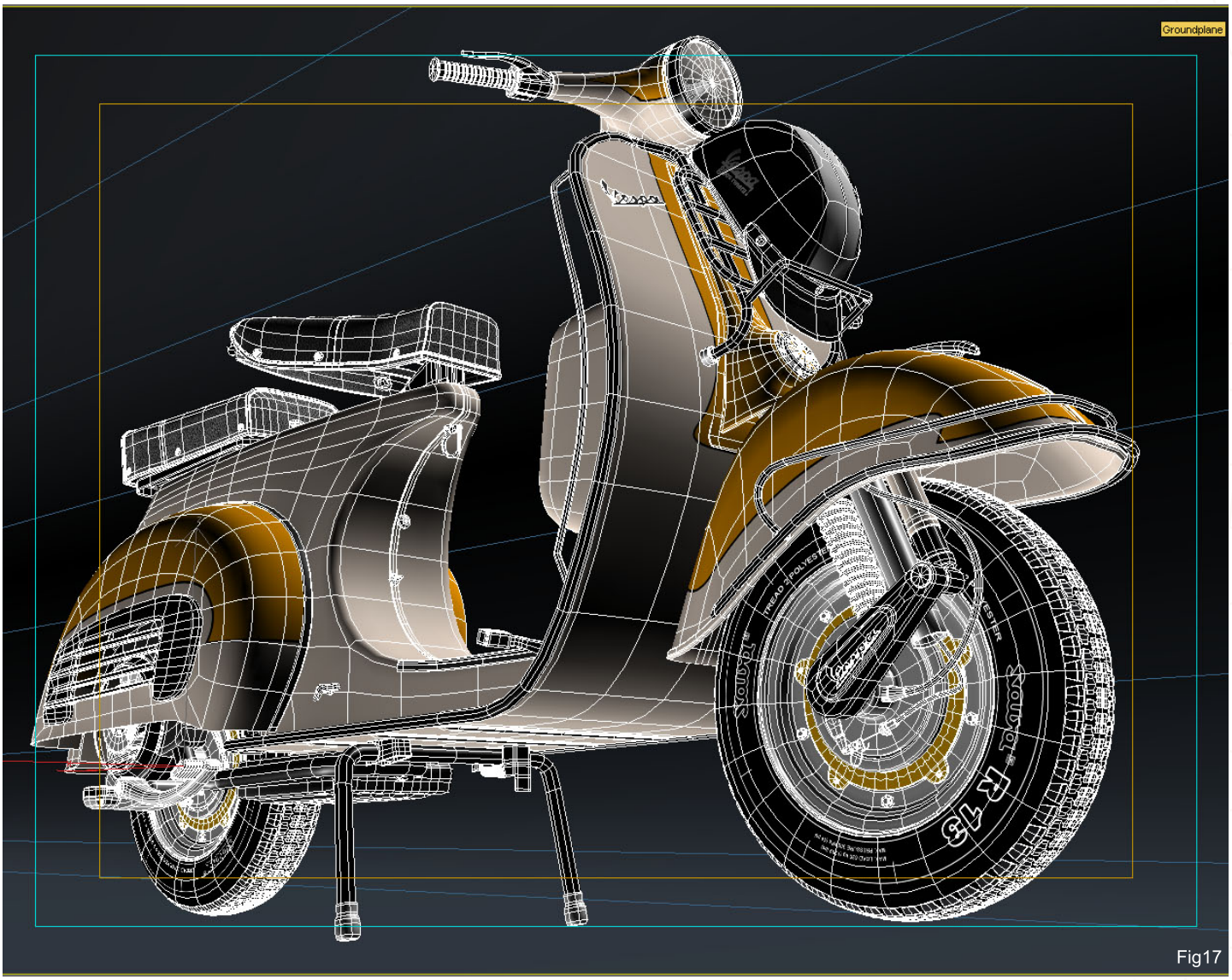

Fig17

Rendering & Post

I hate waiting for renders so I try to lower the render times as much as possible. The scene at 800x600 with GI took around 15 minutes on AMD 4200 Dual Core. To render masks for different parts I switched to Default Scanline Renderer and just applied self-illuminated white material to the parts I wanted to be masked and 100% black material to the rest. I opened Photoshop and loaded up the render. First I did some colour corrections and other adjustments, like levels and saturation. Parts that were too dark were brightened up using the masks (tyres). I also used a lighting filter on the background to get some darker and lighter spots. I could have spent ages tinkering about with different adjustment layers but one has to say stop sooner or later. What I like about Photoshop is that you don't have to wait another 15 minutes to render a scene if you want to change the colour of the background. Possibilities are endless and your imagination is the limit, so think what can be done inside a paint program before you waist another 2 hours re-rendering stuff (Fig.18-20). To conclude, I would simply like to add that I really enjoyed working on this project.

Fig18

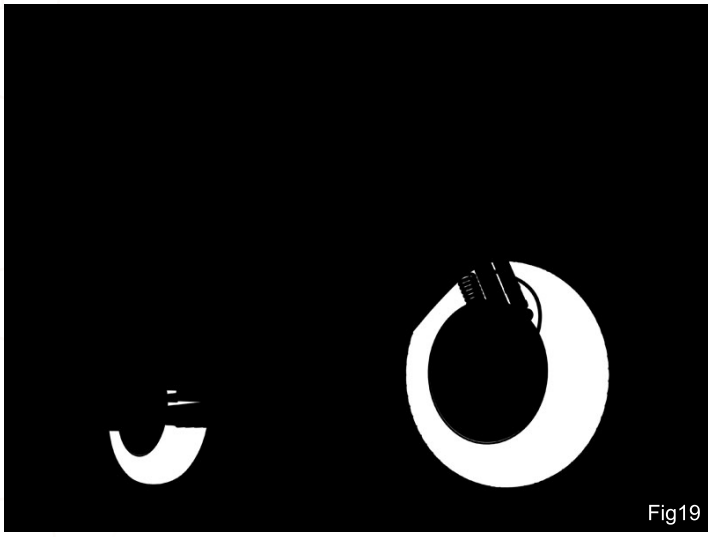
Fig19

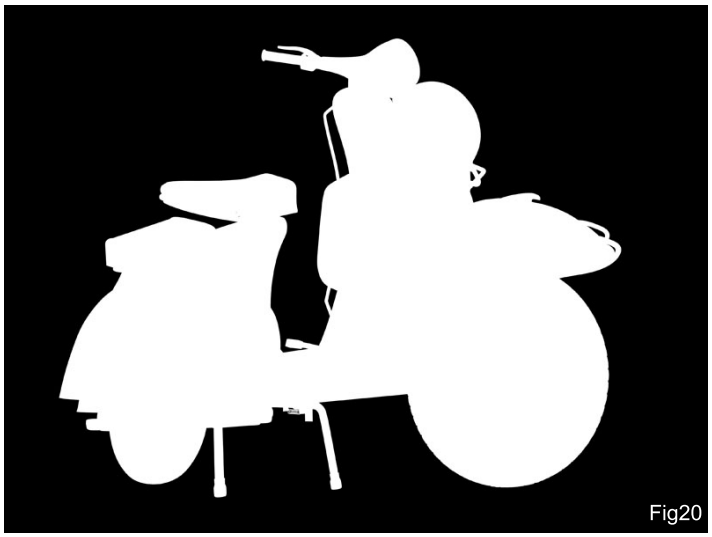
Fig20

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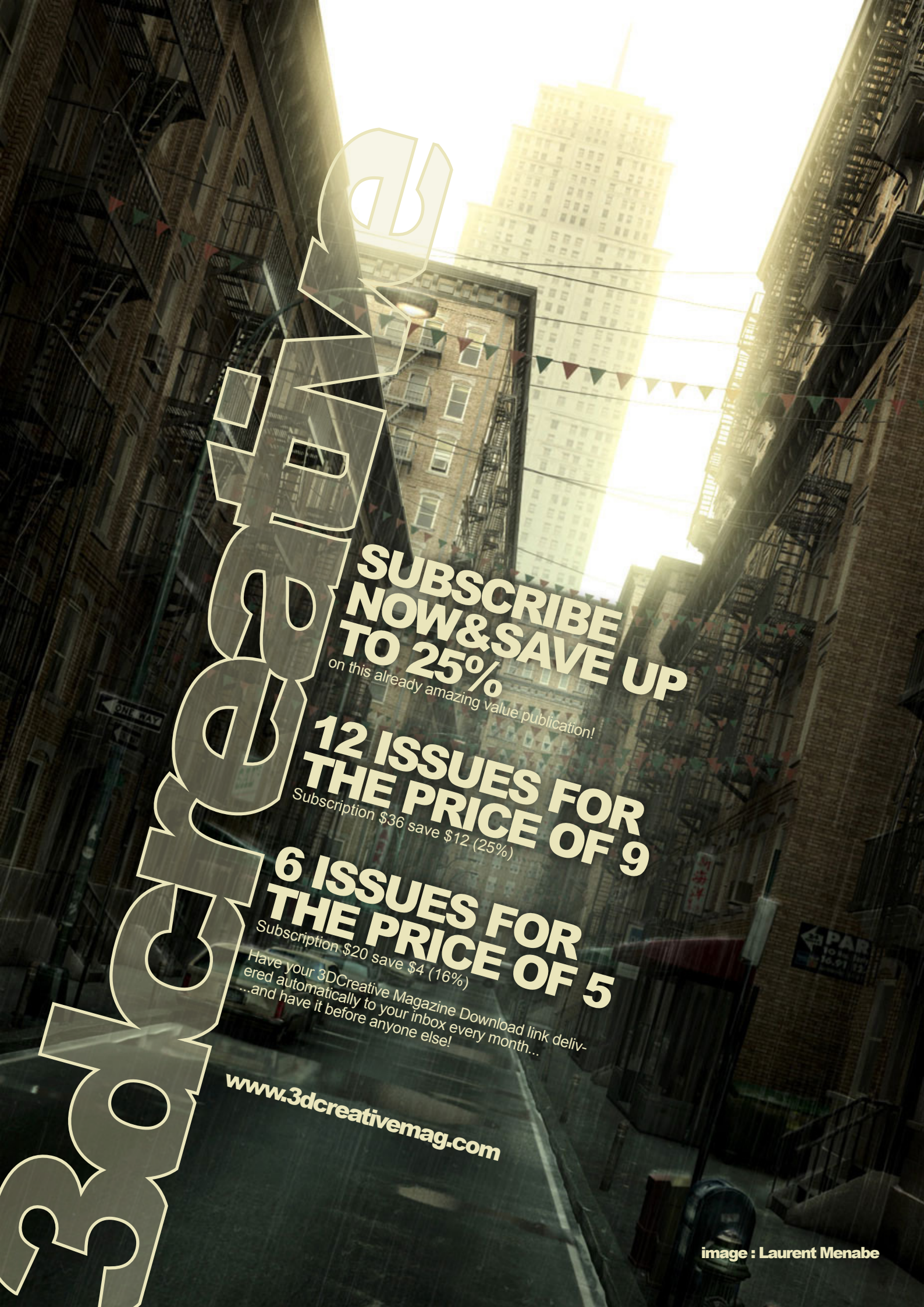
Or contact:
info@3dg.si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"THE MOST IMPORTANT THING IS, THAT WE LOVE TO DO 3D STUFF, AND THIS KEEPS YOU ALIVE..."
making of
mazda cx-9
In this making of, we see how Michael made his model of a Mazda look life-like, using 3DS Max and very handy rendering methods...

mazda CX-9


Fig01

Created In:

3D Studio Max

We both are very happy about our good teamwork and progress in the 3D industry, and it was a long journey to get our skills and experience and to know that we fit perfectly together. There are several reasons for this, like our passion for photo-real rendering, and the fun we have every time working for productions. We also know that we are reliable and ambitious and we take our job very seriously. After several years we created our own company and started our way in the 3D industry. One of our strong points is our passion for learning and understanding different render systems, and developing material and lighting setups for photo-real rendering. But the most important thing is, that we love to do 3D "stuff", and this keeps you "alive" if something goes wrong in a project. You can see the car in action at: http://www.mazdausa.com, simply by clicking on the Mazda CX-9.

Getting Started:

Welcome to the project overview about the Mazda CX-9. A good start is always to collect as many reference images as possible. It is very important to have many pictures of the car from different views, to make sure that the car is modelled as accurately as possible (Fig.02).


Fig02

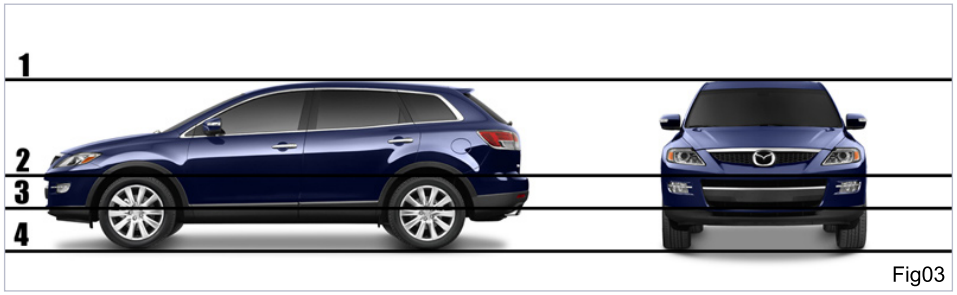


Fig03

Setting up the blueprints:

The first step is setting up the blueprints, therefore we have to make sure that all blueprints align. You can check this easily in Photoshop, just drop the side and the front view in one sheet and follow the major car lines. Don't panic if your blueprints are not 100 percent correct. Do the same comparison with the other views (top-side, back-side, and so on) (Fig.03). After that we align the different pictures to planes in 3DS Max. Make sure that their measurements are the same as their dimensions in Photoshop (Fig.04).

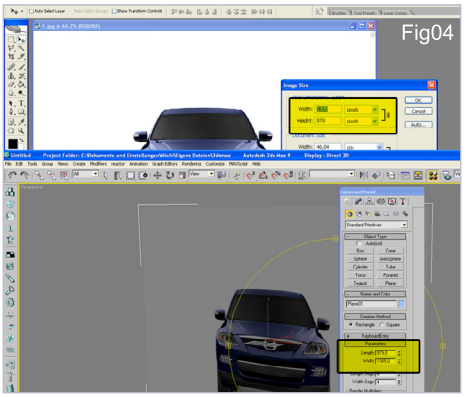


Fig04

Modelling:

There are many different ways to model a car. A good way is to start modelling in front view. Make a plane and align the major lines with the hood of the car. After everything is correctly aligned, add a symmetry modifier on top of it. The next step is to chamfer the edges where a sharp seam is necessary. Last but not least, add a Turbo Smooth modifier to it (Fig.05-06). With

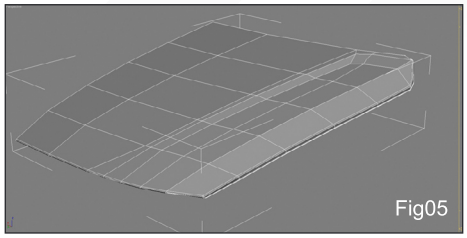


Fig05

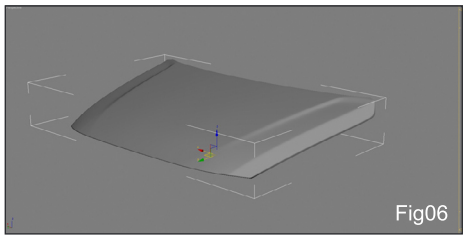


Fig06

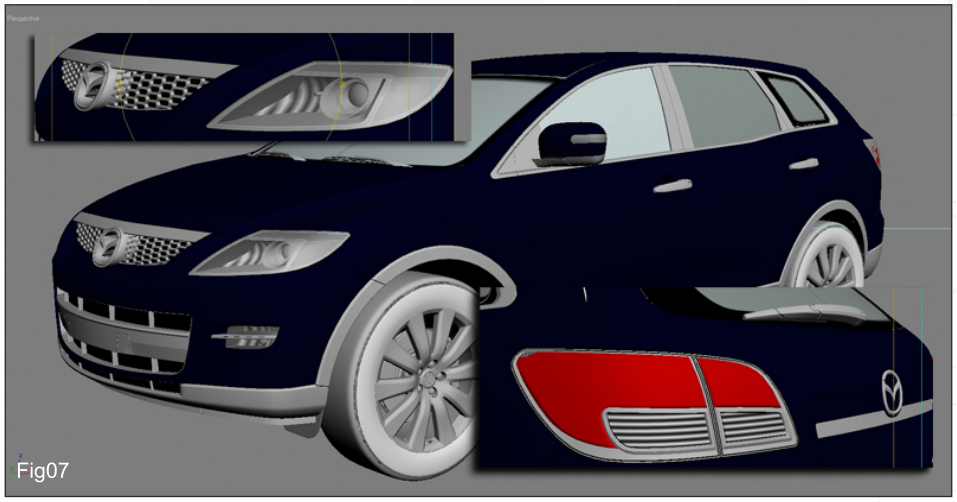


Fig07

this technique you can do the whole modelling process. Always start with a rough shape of the car, and then add more and more detail (Fig.07).

Materials:

When I start doing the materials, I always think about how they would act in real live. This makes the creation process much easier. For example, with the rim material (Fig.08), I used simply Vraymtl with a grey diffuse colour and a Reflection glossiness of 0,78 (Fig.09).


Fig08

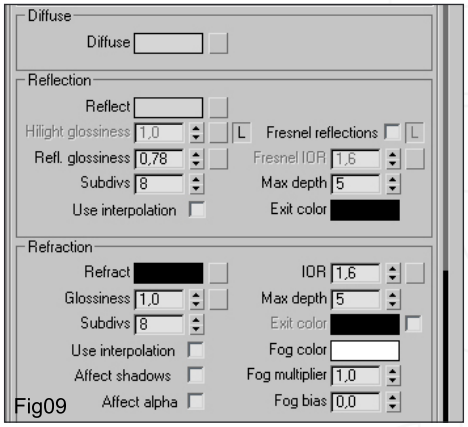


Fig09

Tyre material:

The tyre material has a fall off in the diffuse slot going from black to a dark grey value, to give the tyre material a little bit more depth (Fig.10). I always get asked about the headlight material, which was very easily done, simply take a look at the screenshot shown in Fig.11. In the bump map slot I put a gradient ramp, to give the reflection more variation (Fig.12).

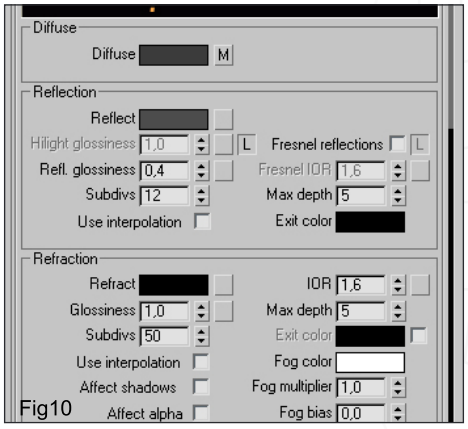


Fig10

Environment:

I always start by applying UVW to all parts in my scene, and with the help of the free Texporter plug-in I can export the wire to Photoshop. After that I browse through the 3DTotal Texture CDs and pick the textures that I would like to use and then save them in my local project folder. The great advantage of those textures are that they are perfectly seamless, and so the texture process is so much easier. To give the wall a more “random” feeling I used the stamp tool to add some more structure to it. In Fig.13 you

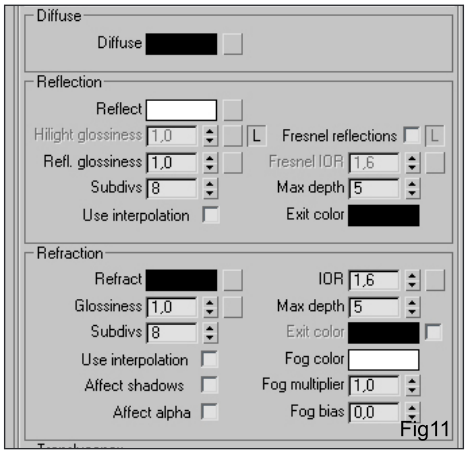


Fig11

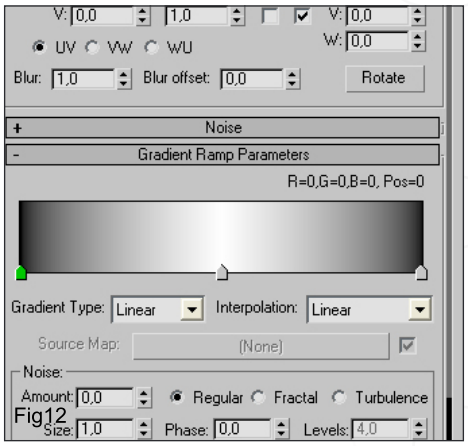


Fig12


Fig13

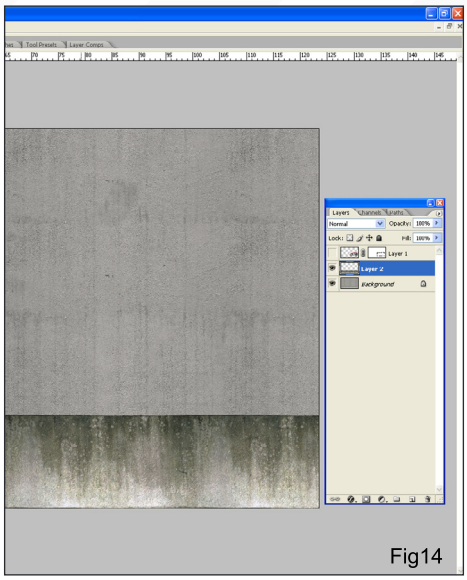


Fig14

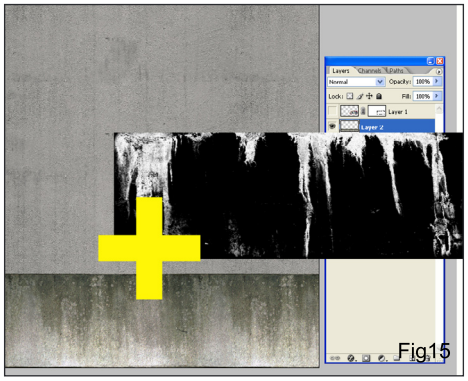


Fig15

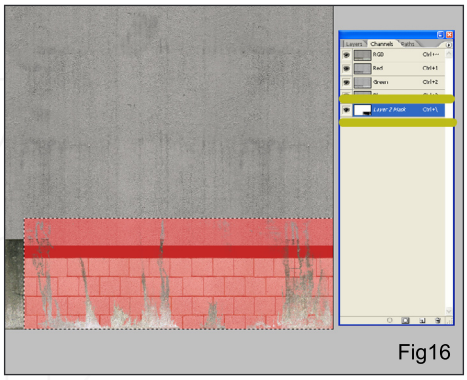


Fig16


Fig17

can see the side wall. Now to add some dirt to the bottom of the image, so I use a few of the dirt images from 3DTotal's V5 Dirt & Graffiti" CD. First of all I added a new texture (3DTotal Texture Aged & Stressed) (Fig.14). In the next step I added a layer mask to our previous created layer and put the dirt map in the alpha slot (Fig.15-16). So far, so good. In Fig.17 you can see the added dirt mask. With the alpha slot still selected you can then use your pen tool set to black to paint transparent areas. If you want to see more dirt in some areas set the pen tool to white, and draw some dirt on the wall. The same process works if you want to add some graffiti to the wall. Just load up your image and apply your alpha map and adjust your blending from both surfaces with the pen tool in the alpha slot. I used this same technique for all other parts in the scene.

Exterior Lighting Setup:

In this project I used HDRI for lighting. When you load your HDRI map, a window opens (Fig.18). I always move the White Points in that way, so that most of the main light source (in this case the sun) is purple. I paste this value into the RGB level output of the bitmap channel where the HDRI map is loaded (Fig19-20). As you can see, I put an HDRI in the skylight

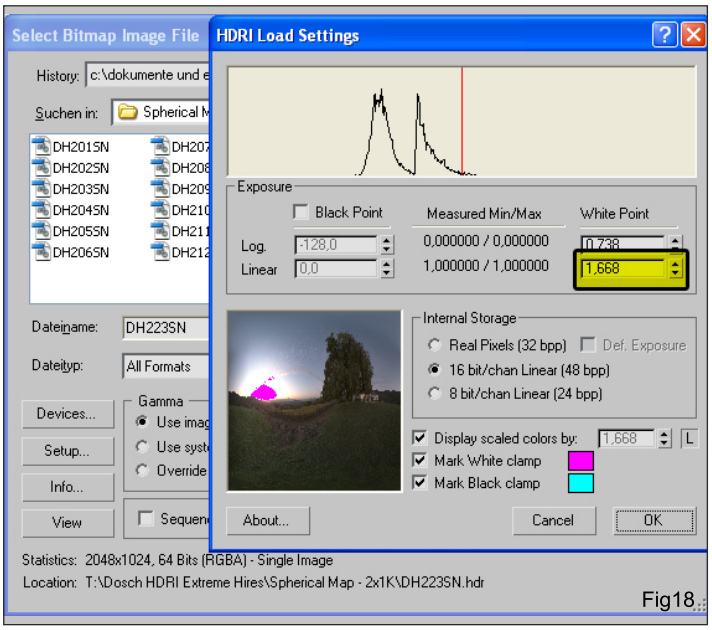


Fig18

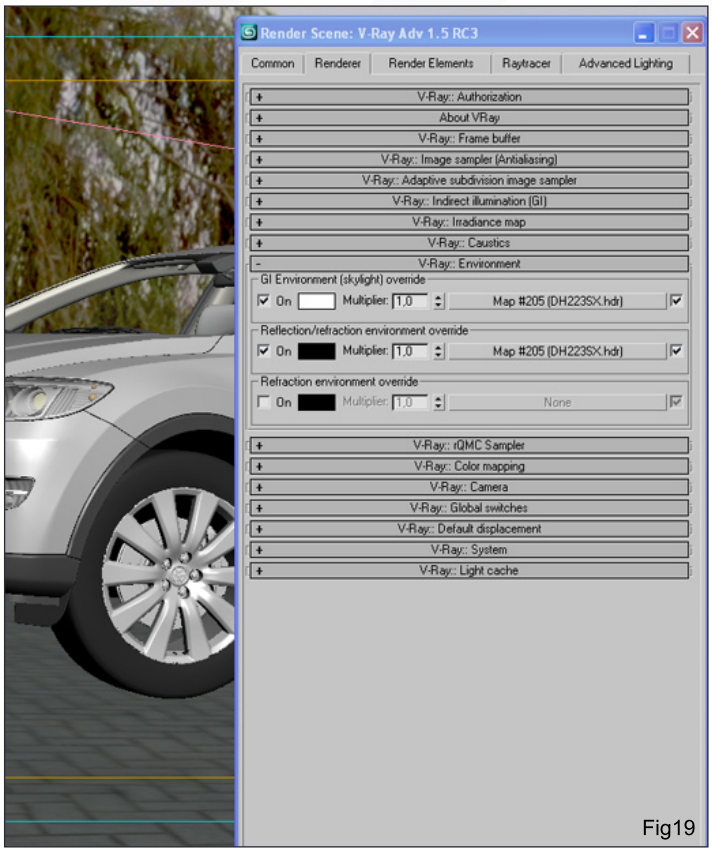
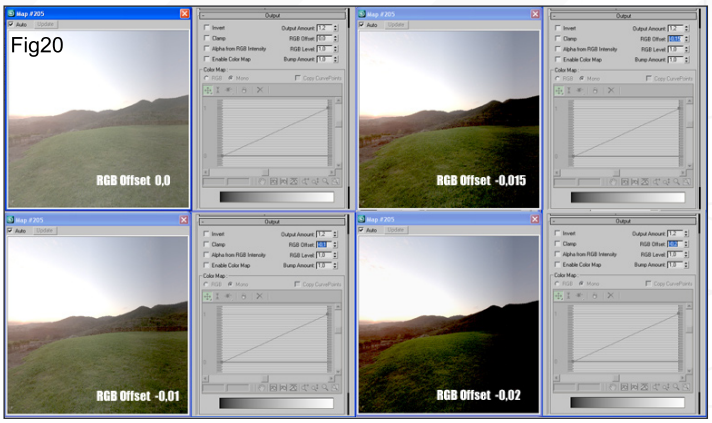
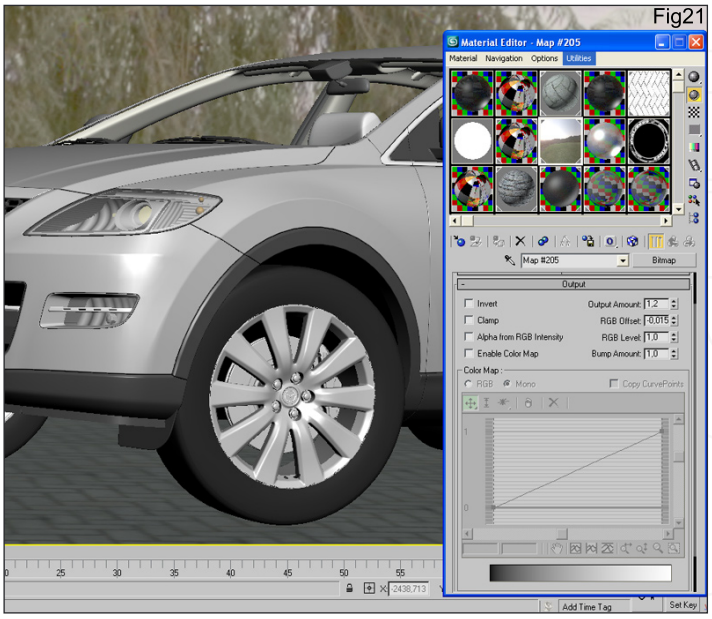


Fig19





and in the reflection environment slot. As you might also have noticed, when I used HDRI I always use the bitmap map, not the Vrayhdri map. This is because I have much more control over the HDRI. For example, with the RGB offset I can easily chance the contrast of the HDRI (Fig.21). The next step is where I rotate the HDRI map so that the main light is coming from the front. The preview what you see in the material editor is that which is opposite your model (Fig.22).

Studio Lighting Setup:

For the studio lighting setup I always use “Lichtwannen” (Licht = light, Wannen = bowl) (Fig.23). This gives me a nice control over the reflection and the setup is pretty simple. As you can see, I only used a tube and a plan and applied a Vraymtl material to it. In the diffuse map I put an output map with an intensity of 1,5. In the output map I put a gradient ramp going from black to white and black again (Fig.24-25). Make sure that you turn off “Cast Shadow” in the object properties for both “Lichtwannen” (Fig.26). For the studio light I only used a skylight with the intensity set to 1. This gives me those soft, studio car shadows (Fig.27).

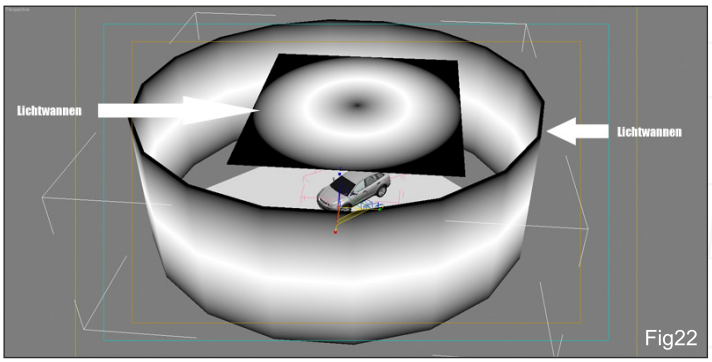


Fig22

Rendering Setup:

If you are using GI for your light solution, make sure you turn off “Default Lights” (Fig.28). The reason why I used a secondary rays bias value greater than 0 here is that, I had some overlapping meshes and even some objects with a height of “0”, and VRay tends to make ugly artifacts when this happens. So I used 0,01 to get rid of those render errors. For the image

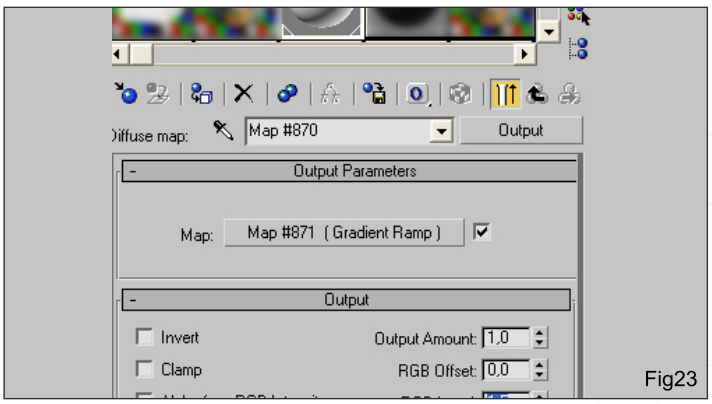
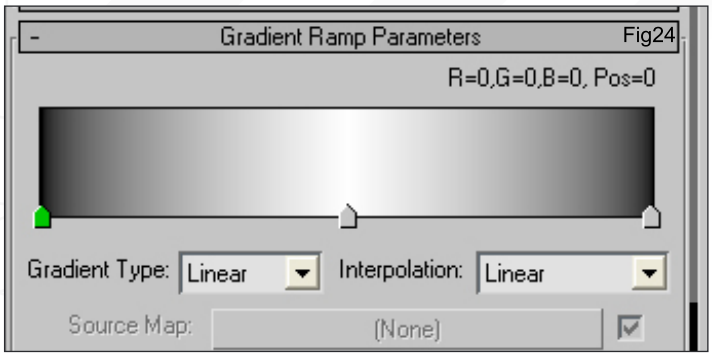
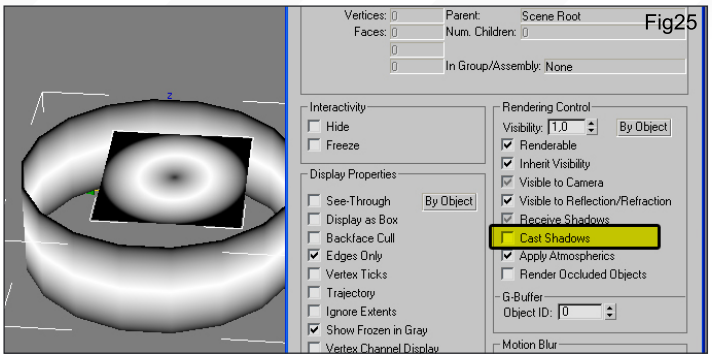
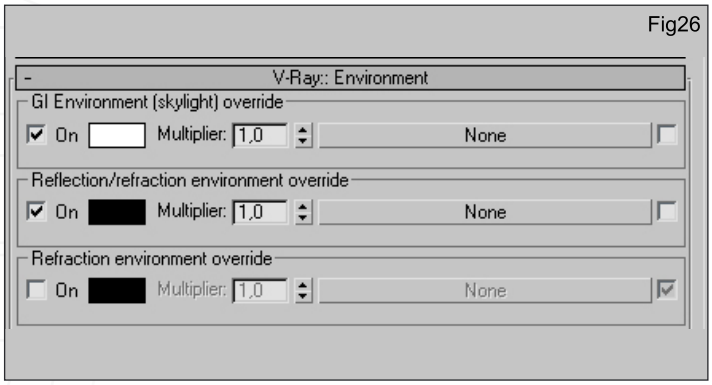
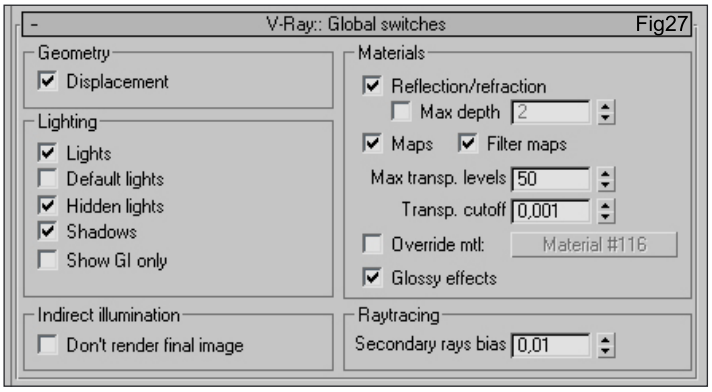


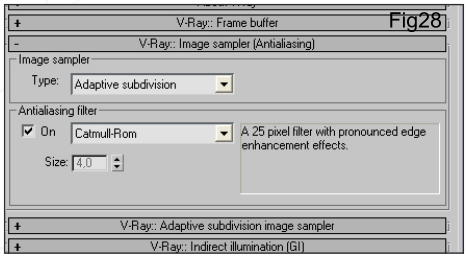
Fig23

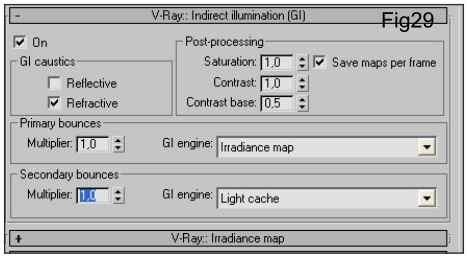


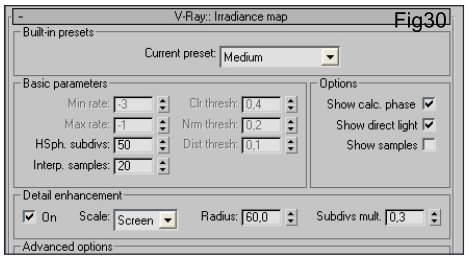


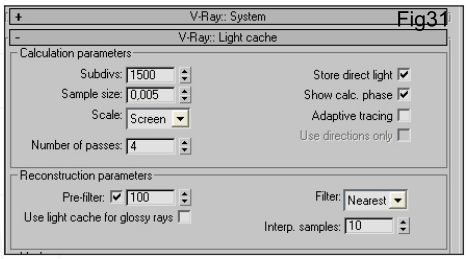












sampler I used Catmul Rom, because this filter gives me a sharp render result (Fig.29). Indirect illumination settings can be seen in Fig.30, the Irradiance map settings can be seen in Fig.31, and finally my settings for the light cache are in Fig.32.

Colour Correction:

A very important part of creating CG images is the post work. With this image, I need to correct the colour range of the image in Photoshop. OK, so our images have come straight out of 3DS Max. As you may have noticed, the image

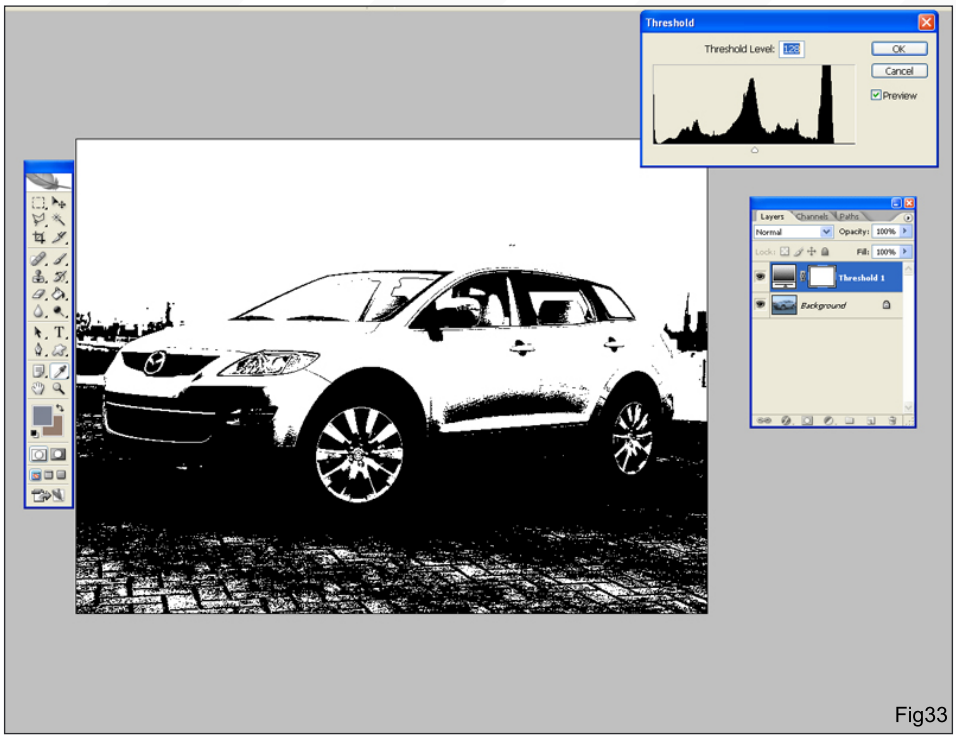


Fig33

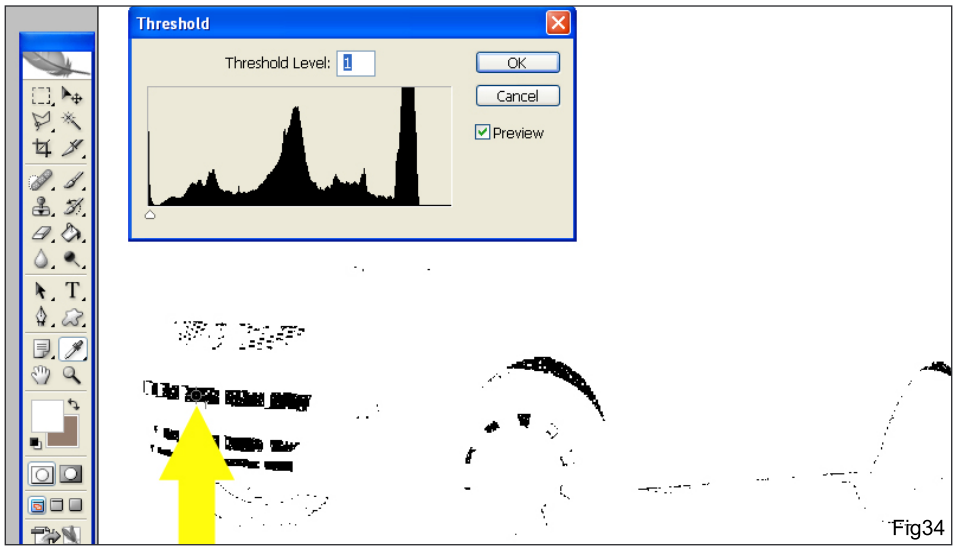


Fig34

has a very dominating blue tint, and in the next few steps we need to correct that (Fig.33). First of all we add a threshold modifier to the image (Fig.34). After that we move the slider to the left side. Now you can see that only the darkest parts of the image are remaining. Hold down the Shift key (the mouse icon changes into a cross) and select the darkest area (Fig.35). Now move the slider in the opposite direction and do the same. You should now see two crosses, marked with “1” and “2”. Hit the cancel button. OK, now we have set the range for the white and the black points. Now it’s time to select the midtones (grey). Add a layer on top of it and fill it with 50 percent grey and set the layer blending to “different”. After that add a threshold modifier again to the new layer. Now move the Slider to the left. The remaining colours you should see are grey. Hold down the Shift key and select them again. Finally press the cancel button again. You should now have 3 crosses, marked from “1” to “3” and you can now delete the new layer (Fig.36). Now it is time to add a Curve Modifier to the image. Under the button “Option” you see 3 icons for the eyedropper tools. The first is for the black points, second for grey, and the third for the white points. Select them in that order. To select them you have to hold down the Shift key or press Caps Lock on your keyboard (your cursor will change into a cross) (Fig.37). Now hit OK, and you will see the colour corrected image.

Fig35

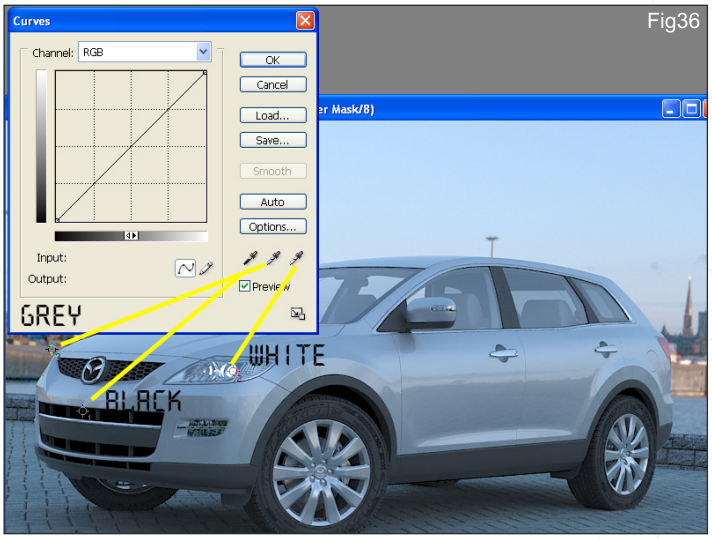


Fig36

Fig37

I hope you have enjoyed reading through this brief project overview. If you have any questions, please don't hesitate to contact me. You can see more images on my website and can also download the discussed shaders.

MICHAEL SEIDL

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Or contact:

office@michaelseidl.com

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Ready To Fly

Adrian Baluta explains, in four simple steps, how he created “Ready To Fly”, starting with a sketch and ending up with his finished 3D artwork...

“My aim was to make a mechanical bird which still looked child-like , which is not so unusual.”

Ready To Fly

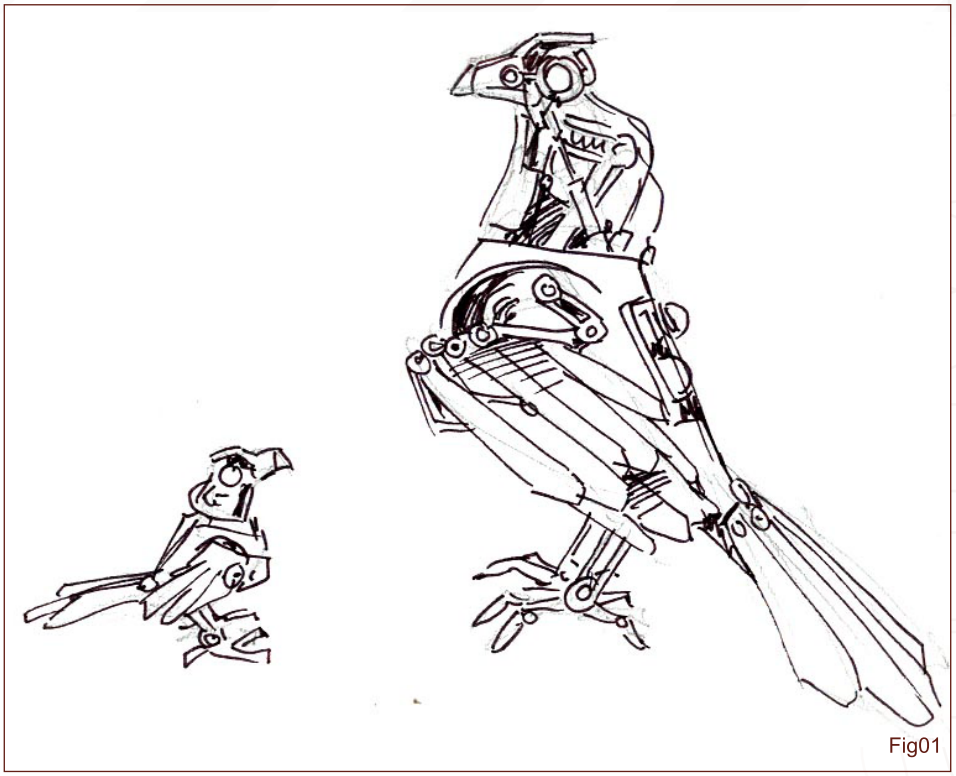
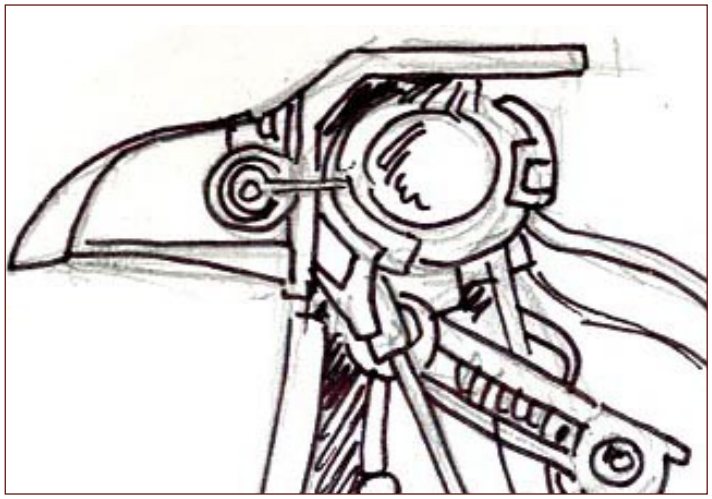


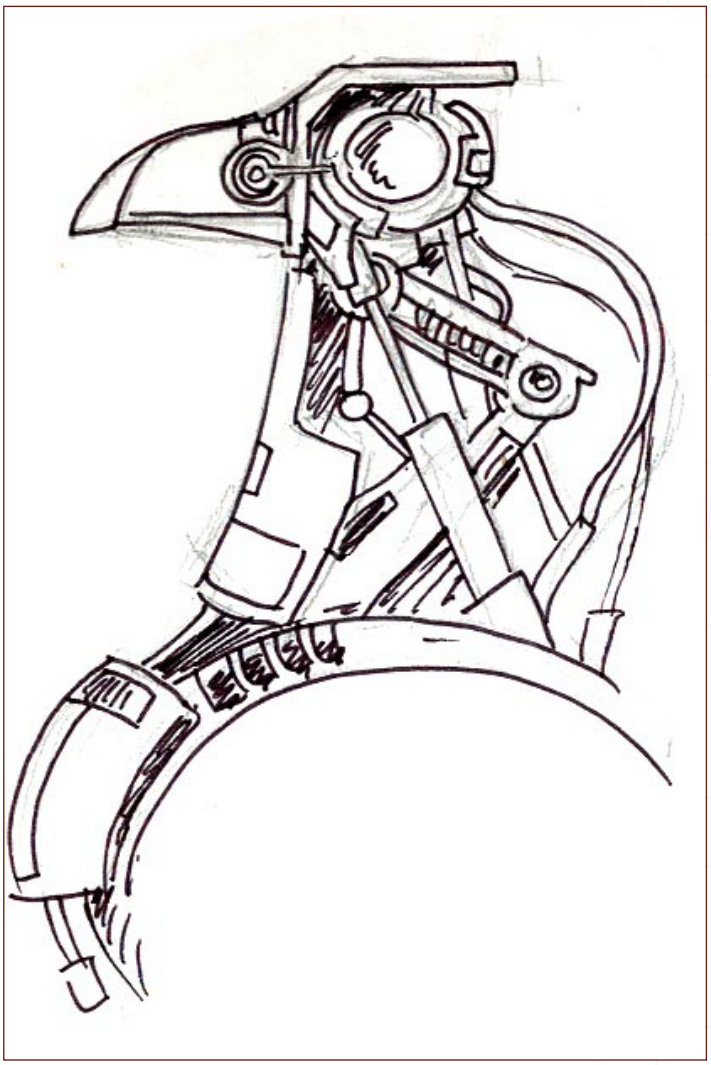
Fig01

STEP 1

I started with a sketch of a bird which had the character base of a kite silhouette (Fig.01). The main tip of this exercise was in focusing upon a strong pose of a bird (Fig.02).


Fig02

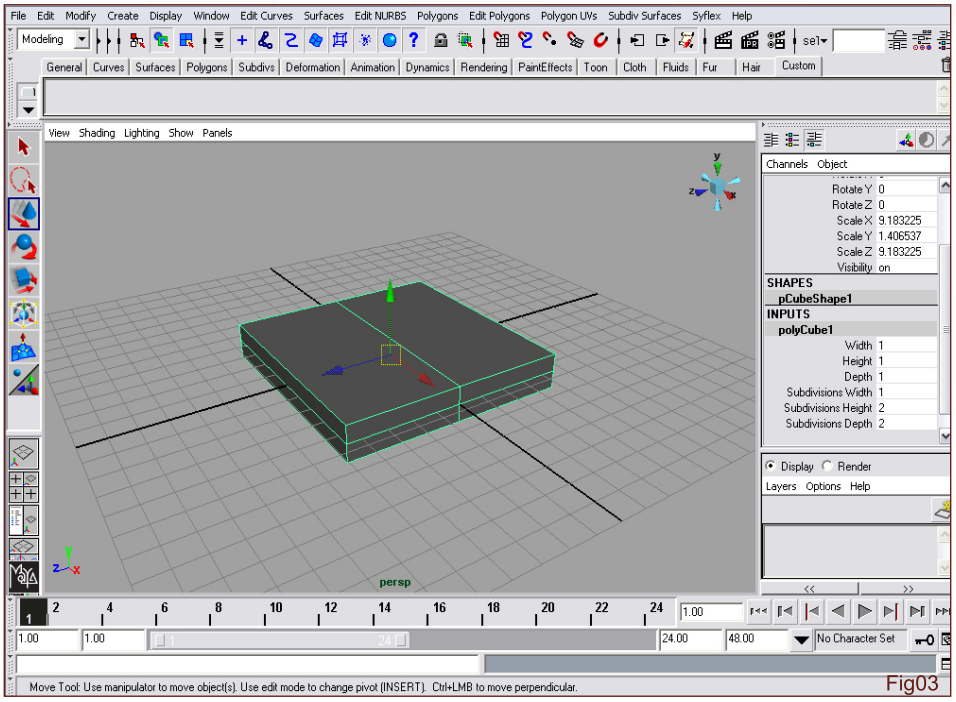


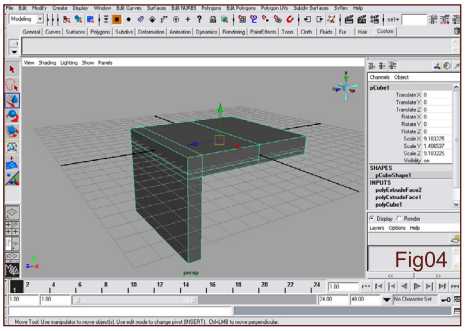


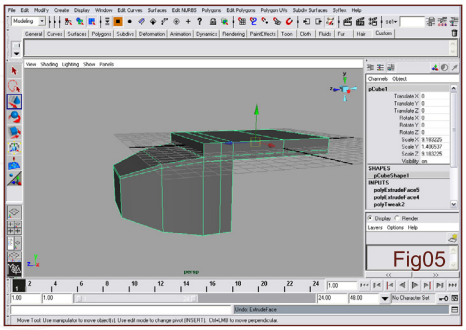
STEP 2

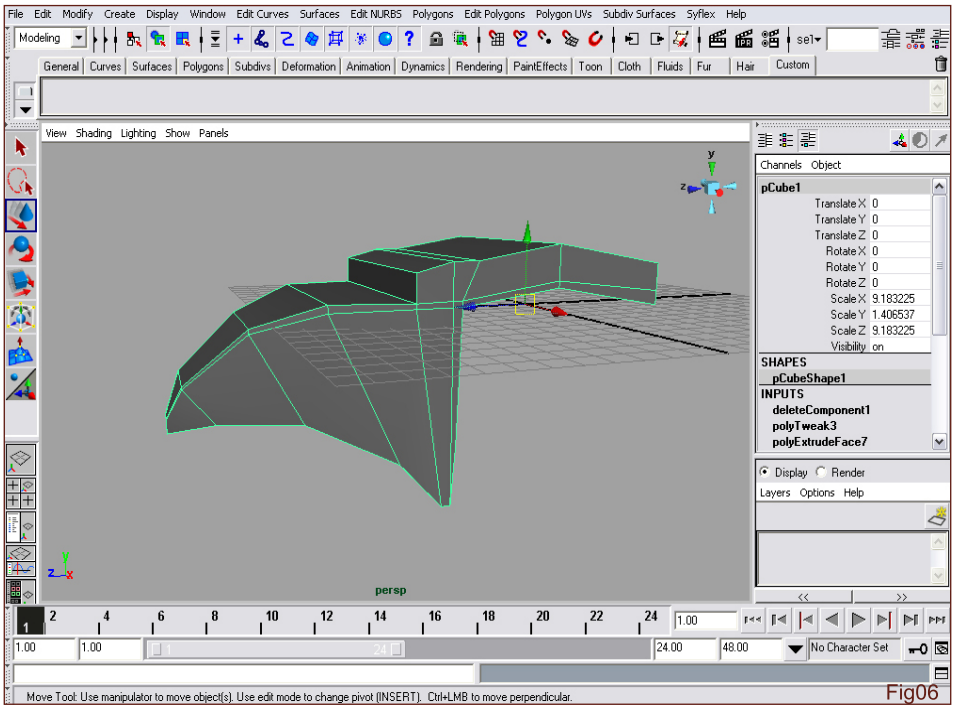
After achieving a satisfying sketch, I moved on to work on the modelling. All of the modelling was made using polygons, based on simple shapes, like spheres, pipes, helixes and cubes. I started to make the head using a cube shape (Fig.03) and designed the silhouette by extruding faces (Fig.04). After that I arranged the vertices to look like a kite head (Fig.05-07). I put elements for the structure of the head builder from pipe extrude and created a helix. From that point, I then made the mechanism of the head.

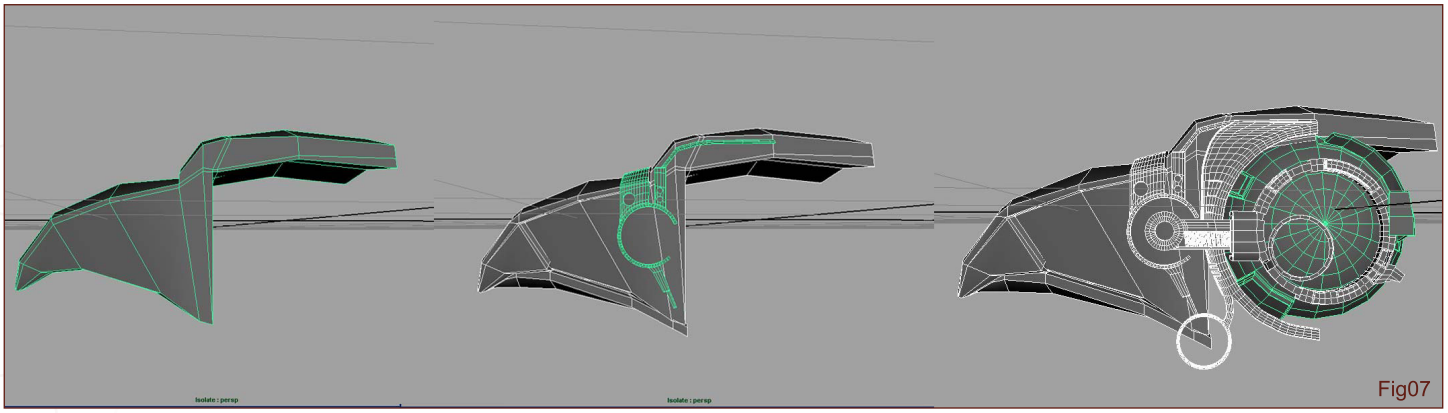
The body has a clear shape of a bird made from a cube shape with some splits, and at the end I made some Booleans to obtain the desired shape (Fig.08-09).











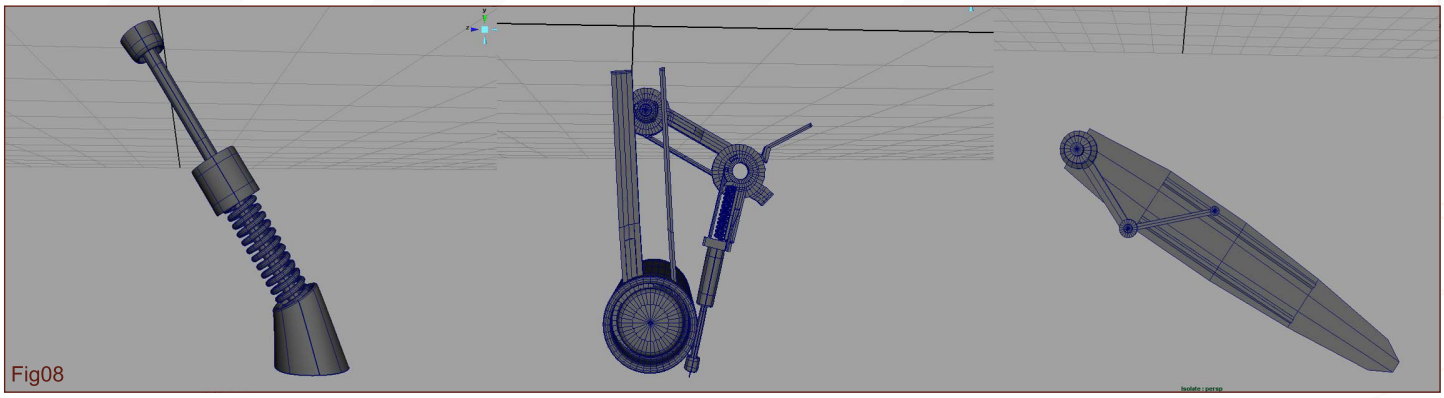


Fig08

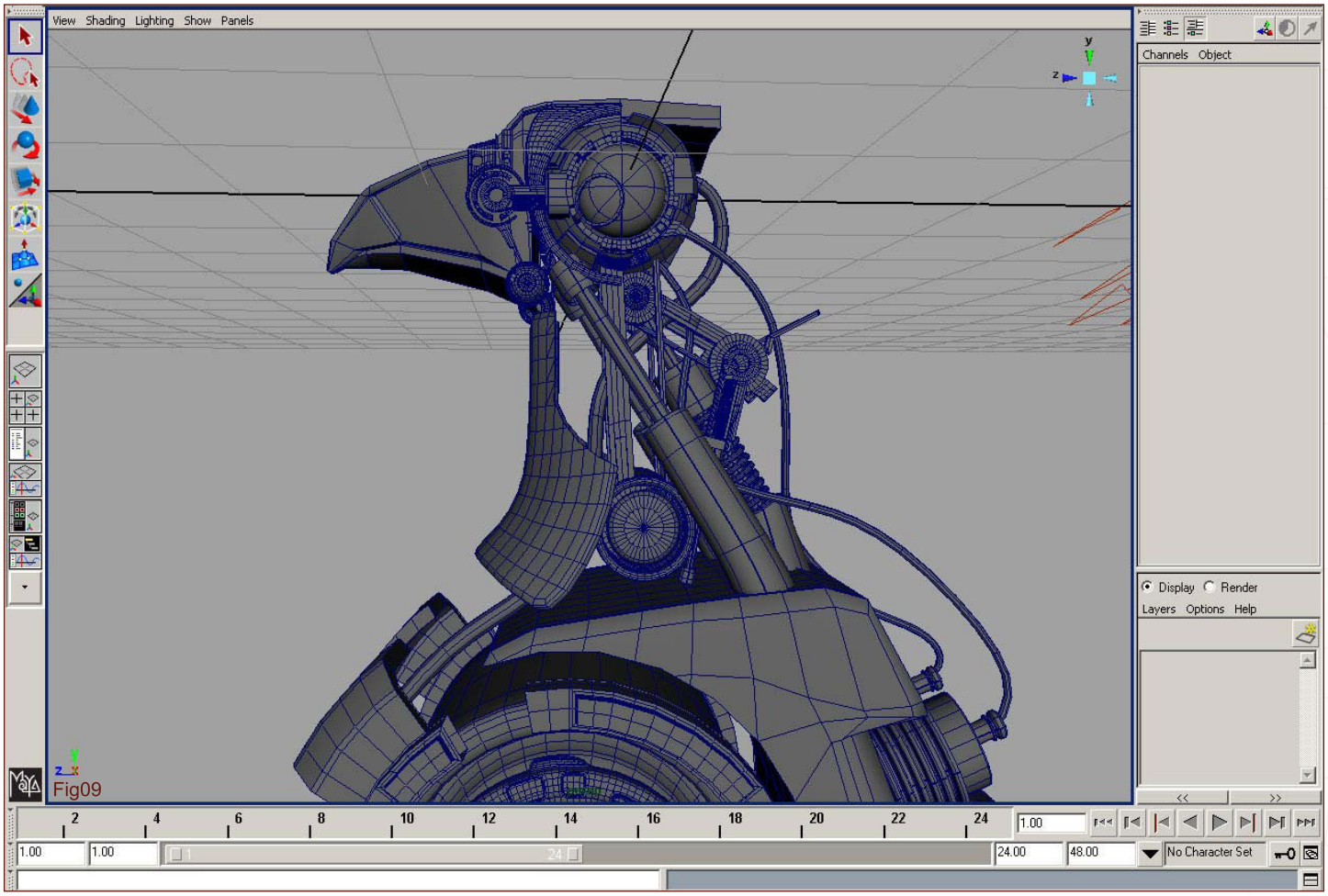


Fig09

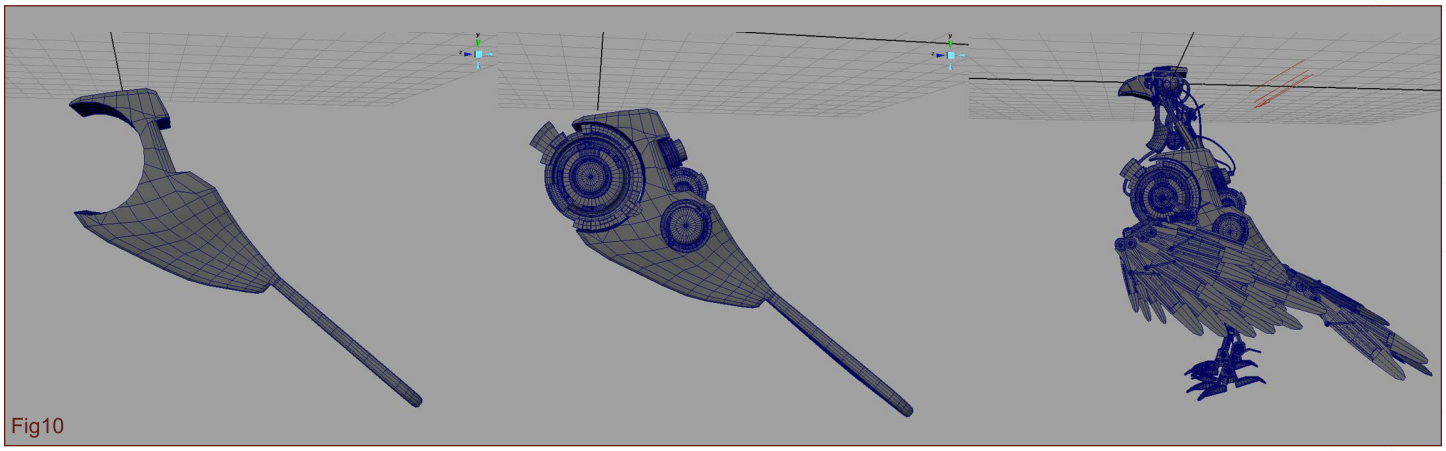


Fig10

STEP 3

The next step was to create the wing and make it look like a functional one (Fig.10). This was built using the extrude face of a cube and then I added some additional mechanical support, like some joins. The rest of the body was build using the same technique that I used to create the head and I combined all of the small mechanical parts with the large shapes (Fig.11). The texturing part was not so complicated because I used procedural textures.

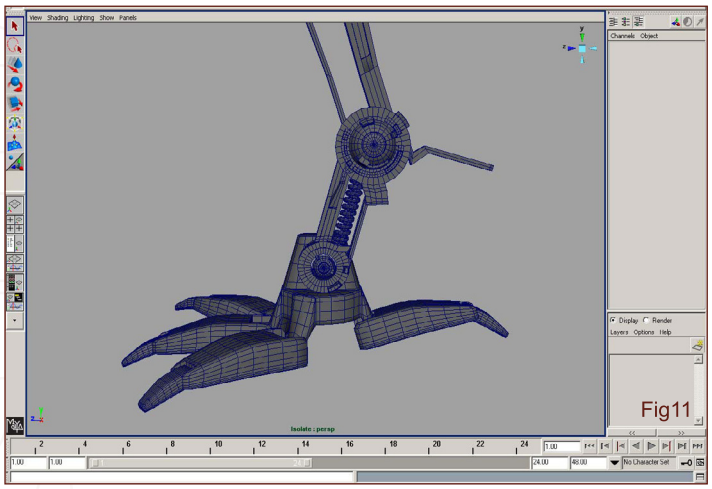


Fig11

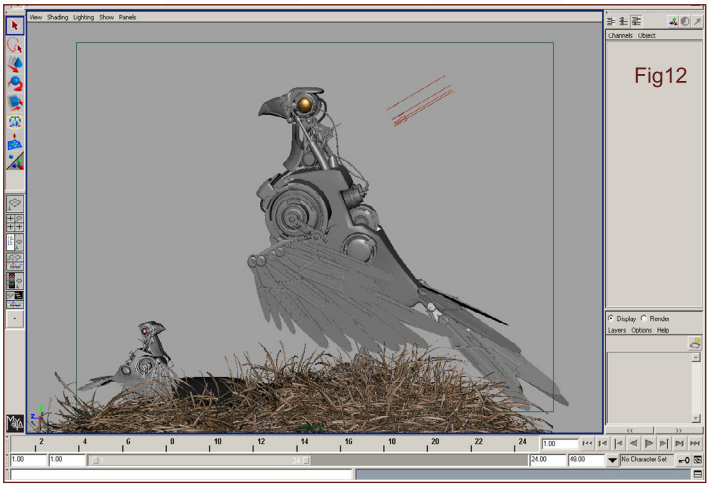


Fig12

FINAL TOUCHES

For the lighting I use two directional lights and for the ground I used Paintfx for the grass (Fig.12). I rendered one layer in Maya, one layer in Mentalray and a different one for the grass (Fig.13). For the background I used a matte painting with clouds and some land. Finally, the composition was made in Photoshop.

Thank you very much for reading this making of. I hope you will find it useful and learn from it.


Fig13

ADRIAN BALUTA

For more from this artist contact:

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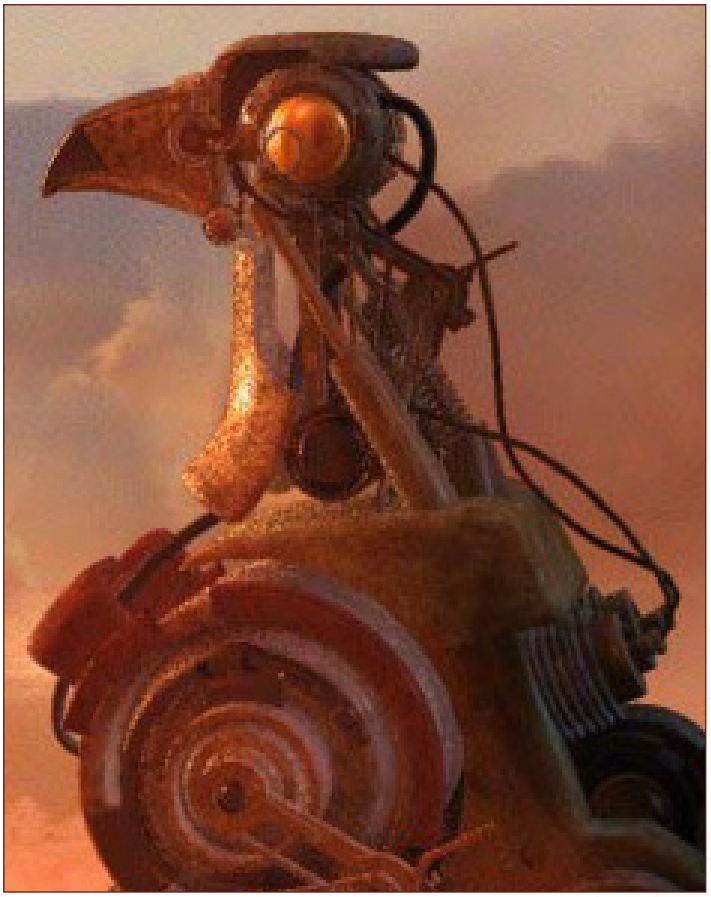

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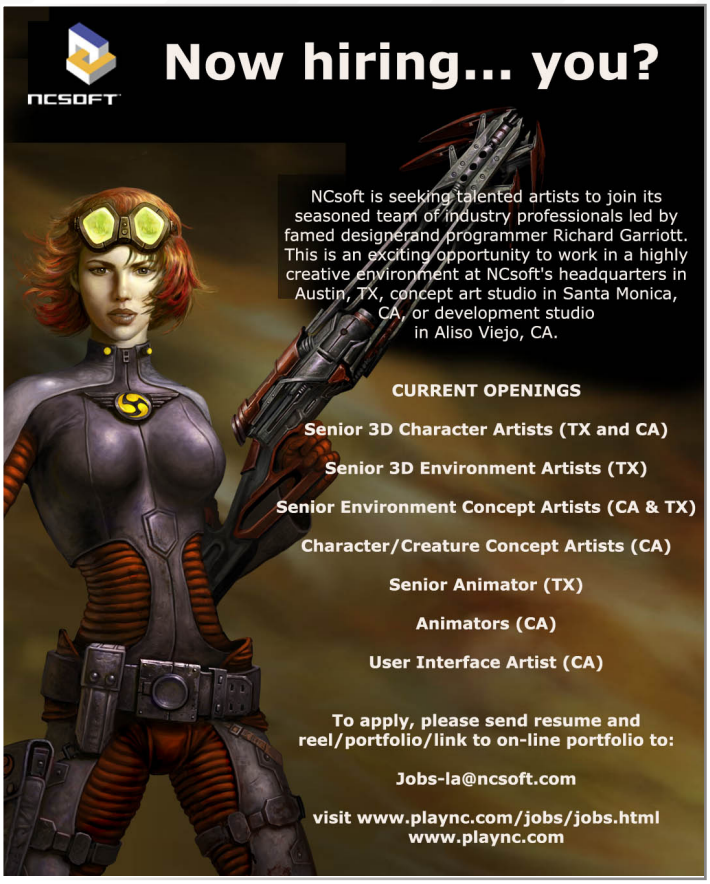

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3ds max

Is our new precise, step-by-step tutorial which will begin with a vehicle model and cover the principals of applying shaders, placing it in a simple scene and following with a two-part section on both lighting and rendering. The tutorial will begin by creating and applying materials for the various parts of the car, such as glass, chrome and tyres, as well as texturing some simple geometry that will make up a scene. It will then move onto lighting where the focus will be on setting up a lighting rig and the various parameters connected to this. Finally the series will culminate with a section on rendering, where the aim will be to finish with a polished image. The schedule is as follows:

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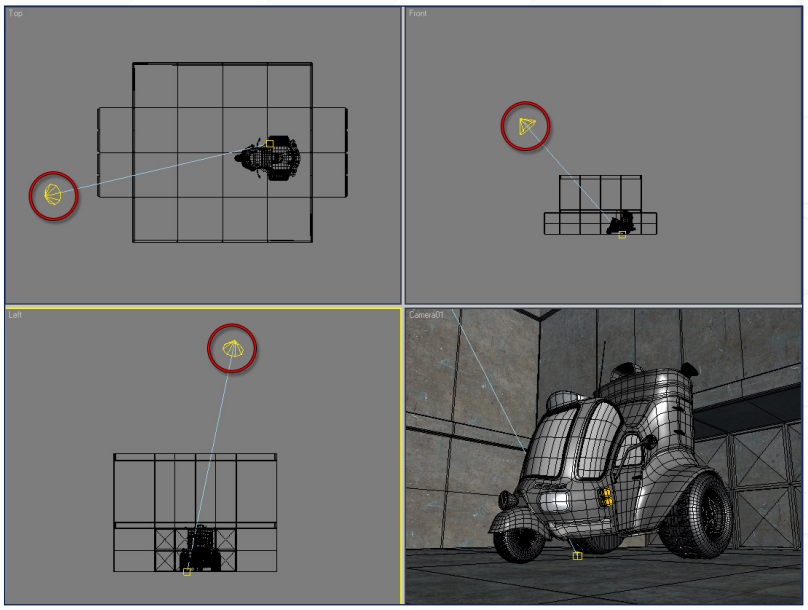
Lighting Setup & Rig (with HDRi) - Part 1

Just a quick note before we start working on the lighting: in the new 3DS Max 9 version there are a lot of new Mental Ray shaders, and there is also a very nice and powerful Car Paint shader. I suggest you use that one if you are working with version 9 of 3DS Max!

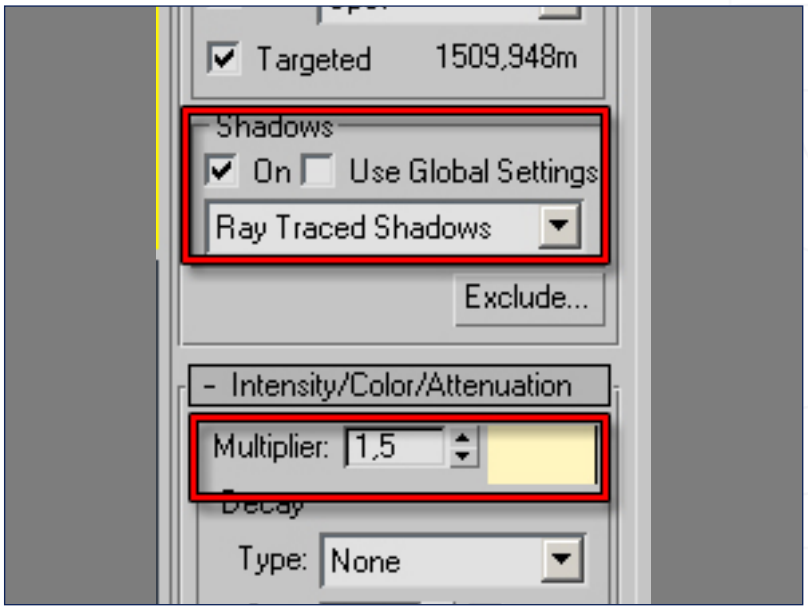
1. Let's begin by creating a Spotlight: position it as shown in Fig.01.

Fig 01



2. Check the ON option for the Shadows (set them as Ray Traced Shadows), then change the colour of the light to a bright yellow, and set its Multiplier to 1,5 (Fig.02).

Fig 02



3. Hit F9 to quickly render the scene. You should get something similar to Fig.03

Fig 03

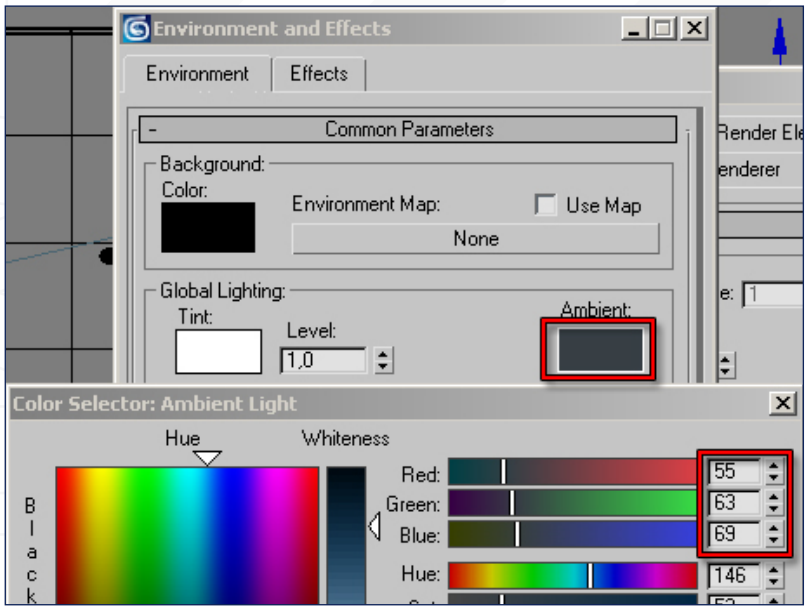


Fig 04

4. Go to the Rendering / Environment window and set the Ambient colour to a dark blue (Fig.04).

Fig 05

5. Render the scene again (Fig.05). Now there is a pale shade of blue, instead of the pure black.

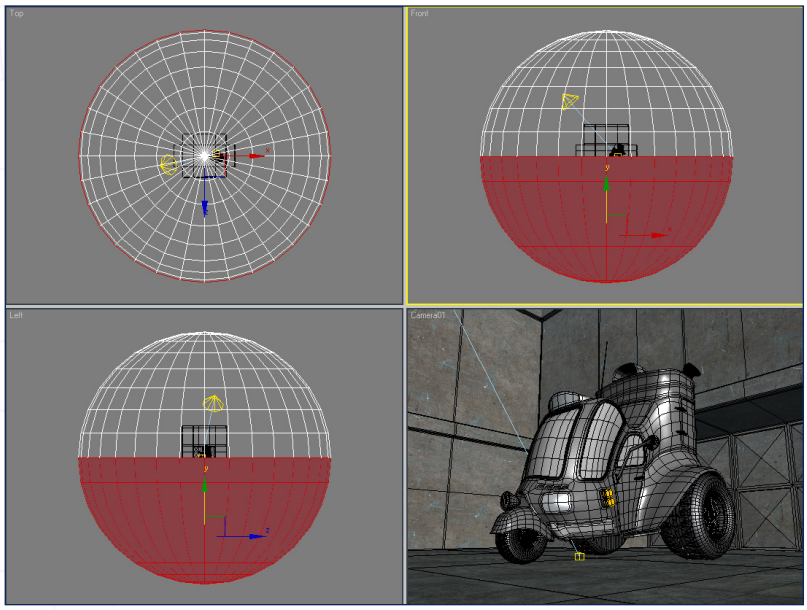
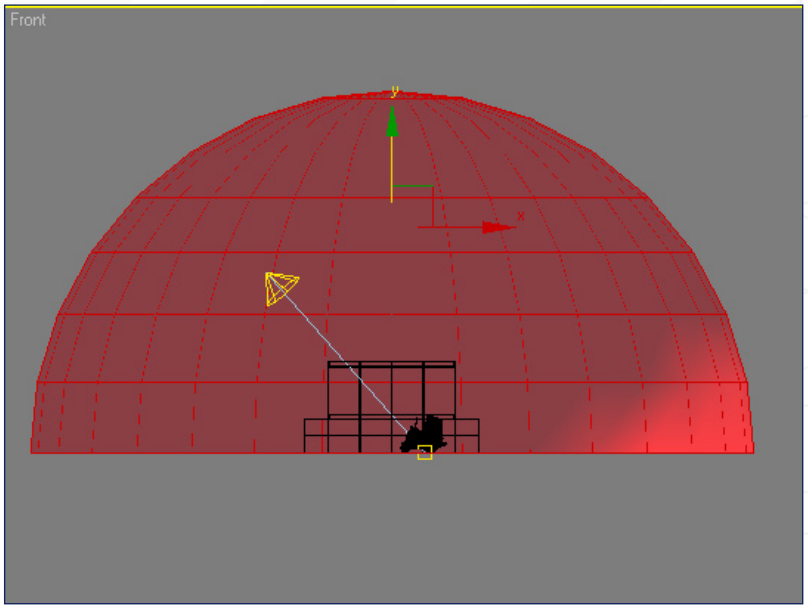


Fig 06

6. Create a giant sphere that surrounds the whole scene, then convert it to Editable Mesh and select / delete half of it (Fig.06).

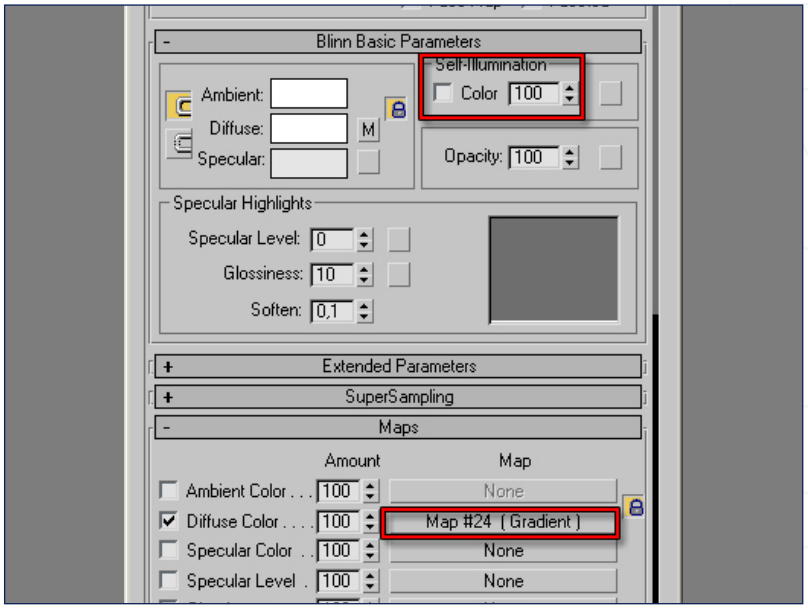
7. Select all of the polygons of the sphere and invert them with the Flip command (Fig.07).

Fig 07



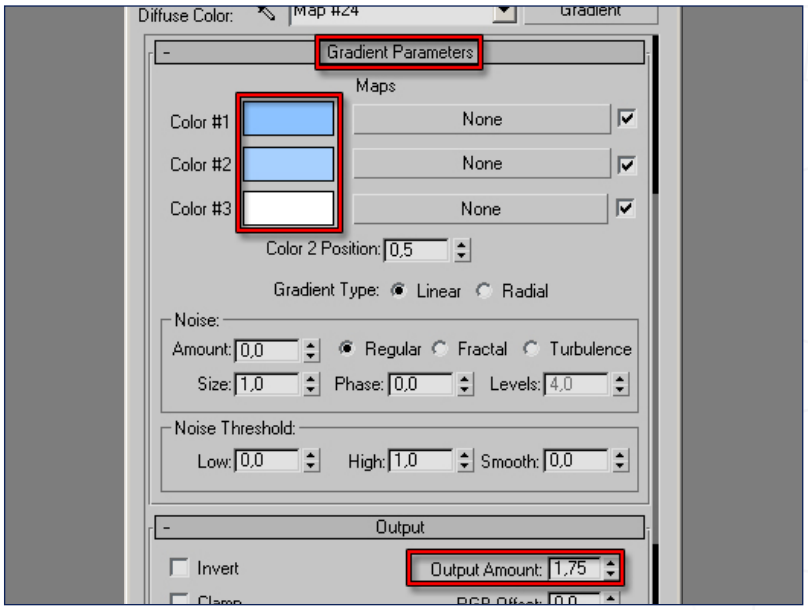
8. Now create a new material in the Material Editor. Set its Self-Illumination to 100% and put a Gradient map into its Diffuse Colour slot (Fig.08).

Fig 08



9. Click on the Gradient map to change its parameters. Set the colours as shown in Fig.09 and set the Output Amount in the Output rollout to 1,75.

Fig 09



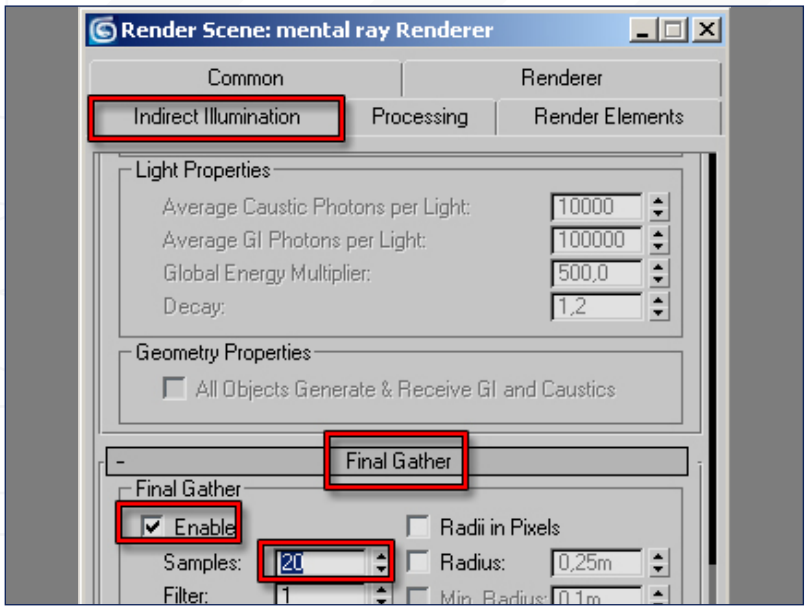


Fig 10

10. Press F10 to open the Render panel. Go to the Indirect Illumination tab and in the Final Gather rollout check the Enable option. Set the Samples to 20 (Fig.10).

Fig 11

11. Try to render the scene and you should have something similar to Fig.11.

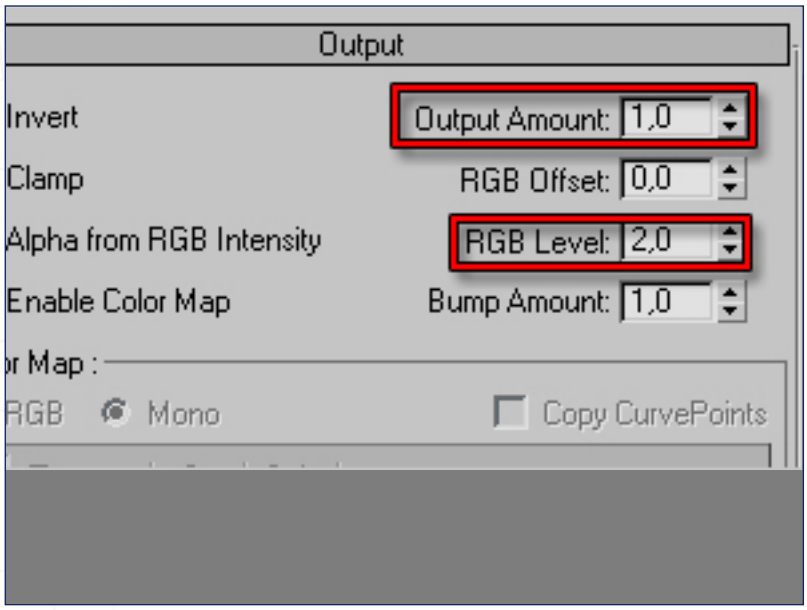


Fig 12

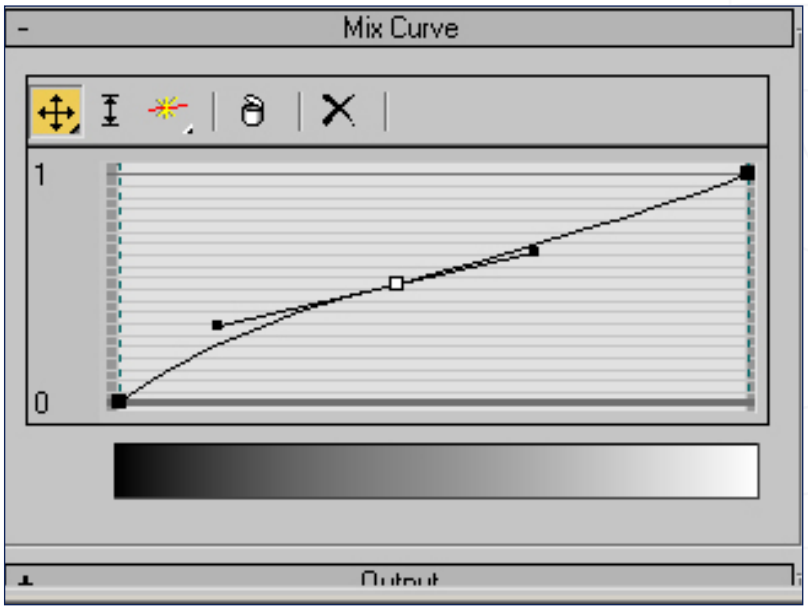
12. Set the Output Amount back to 1,0 and the RGB Level to 2,0 (Fig.12).

13. Render the scene again (Fig.13).

Fig 13

14. The tyre material is way too bright, so we need to darken it a bit. Open the Falloff map in the tyre material's Diffuse slot and modify it as shown in Fig.14.

Fig 14



15. Render the scene again to see if the tyres are looking any better (Fig.15).

Fig 15

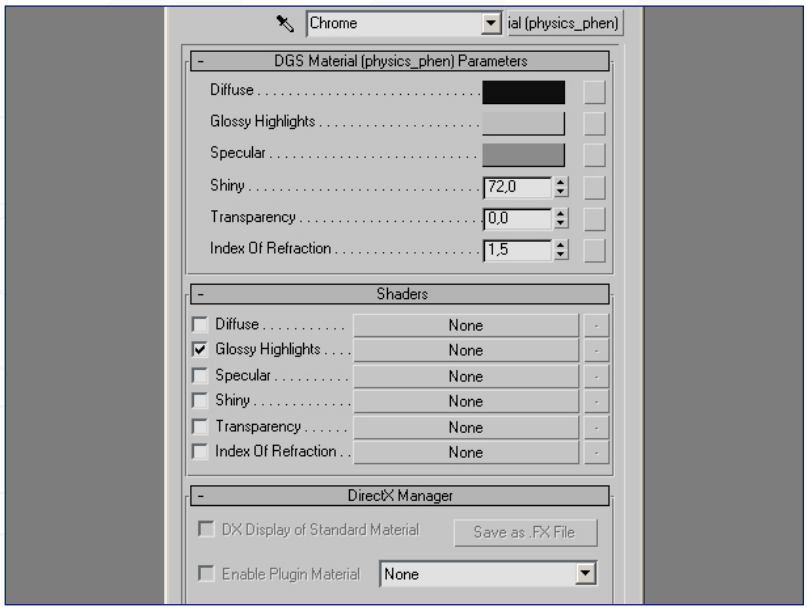


Fig 16

16. Change the Chrome material parameter, too. Refer to Fig.16 for details.

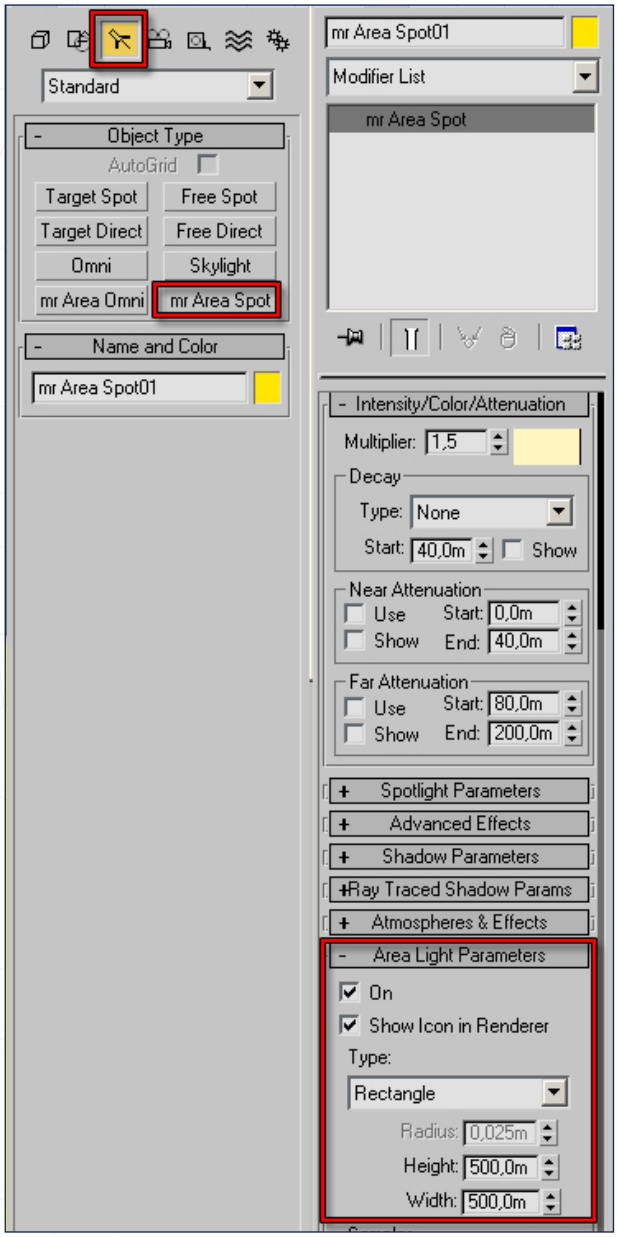


Fig 17

17. If you want better shadows, you can delete the Spotlight and create a new MR Area Spotlight (Fig.17). Set the colour to a bright yellow, just like before, and set the Multiplier to 1,5. Make sure that in the Area Light Parameters the 'On' option is checked. Change the Height and Width values until you get some soft, nice shadows.

Fig 18

18. Render the scene once again (Fig.18).

Here you can see some renders of the scene from different points of view. Next month we'll see how to light a scene with an HDRI map.

TUC-TUC

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Tutorial by:
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CINEMA 4D

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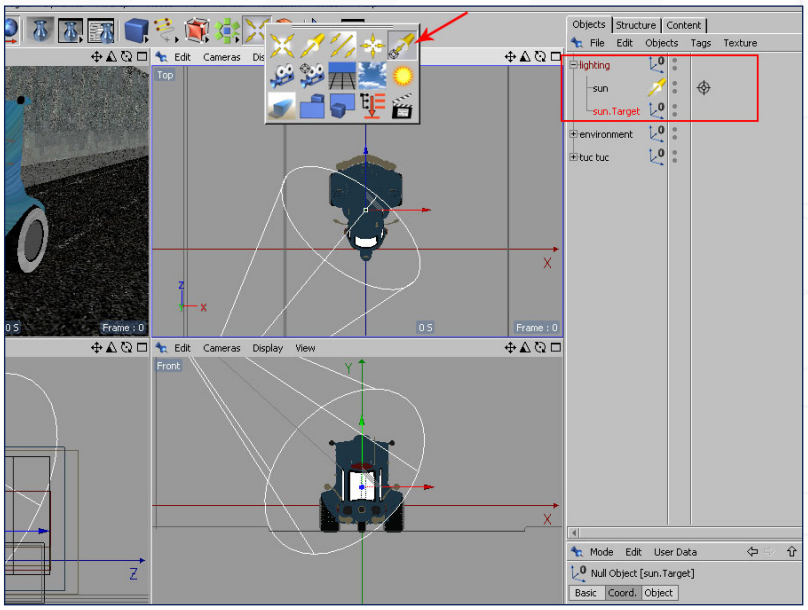
Lighting Setup & Rig (with HDRi) - Part 1

In this part of the tutorial we will see how to illuminate our scene. We will use one light which will simulate the sun, the HDR probe which will give to the scene true reflective specularity and accurate illumination, and the Global Illumination (Radiosity) will obtain a realistic illumination.

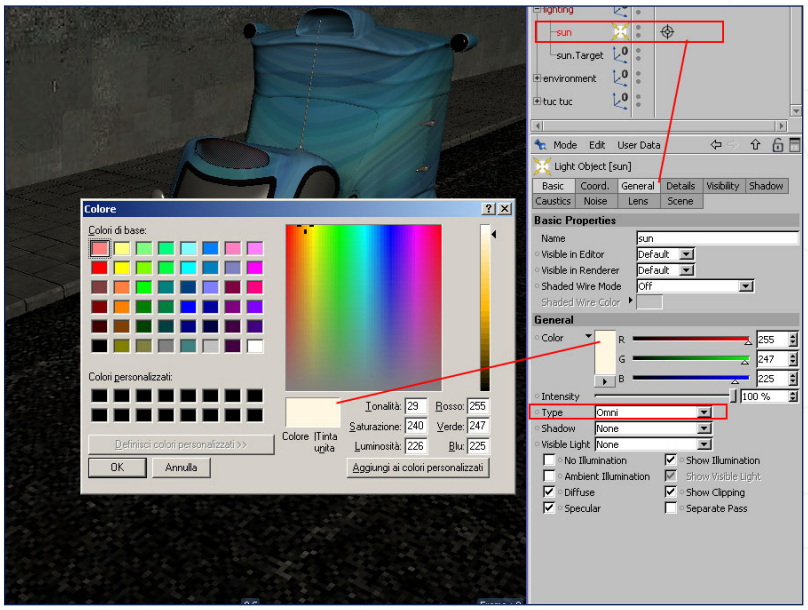
1. First of all create a Null Object, and name it “Lighting”. Insert now into the scene a light with target (main menu > Objects > Target Light) and drag it into the Lighting object. Rename the light as “Sun”. Position the Target on the centre of the Tuc Tuc vehicle, as shown in Fig.01.

Fig 01



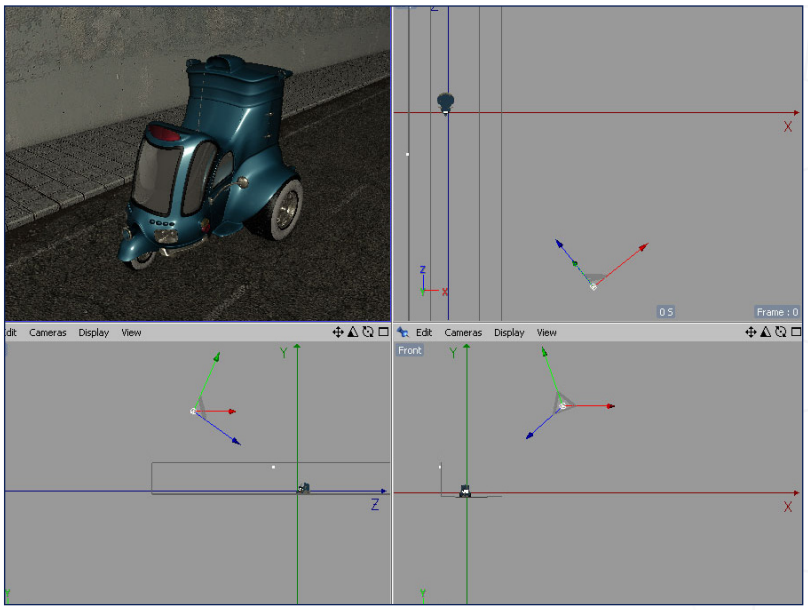
2. In the Light properties, change the type of light to Omni, and change the default colour to bright yellow, as seen in Fig.02.

Fig 02



3. Now position the light, as seen in Fig.03, and make a render to see how it’s coming along.

Fig 03



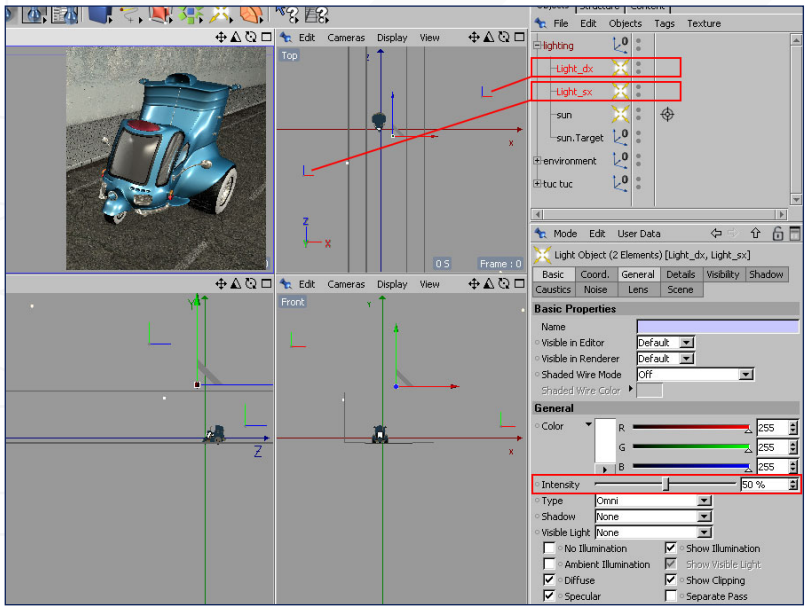


Fig 04

4. The scene is dark and that won't allow us to see how the shadows will be when we enable them. So, add two omni lights to the scene and position them as shown in Fig.04. Decrease the Intensity of the two omni lights to 50%. These two lights will be eliminated later on when we use the HDR probe.

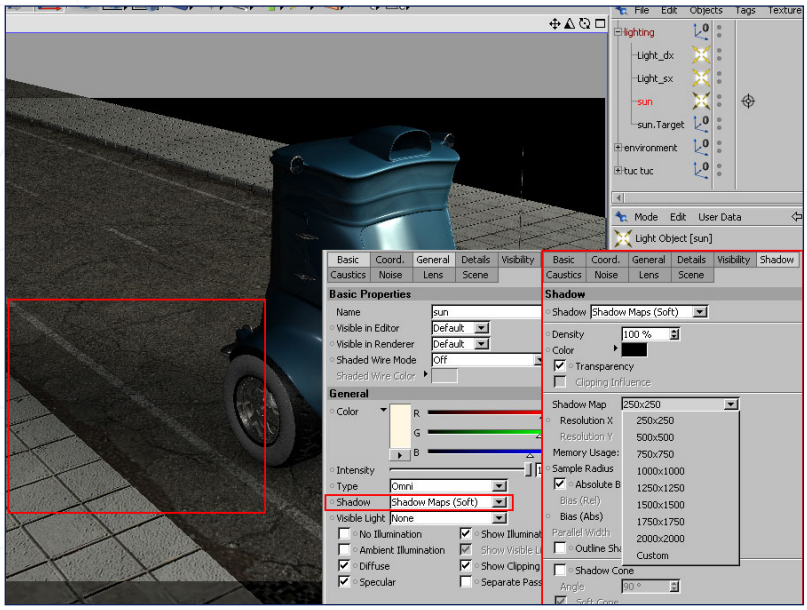


Fig 05

5. Return back on the Sun light and choose Shadow Maps (Soft) as the type of shadows. Make a render (Fig.05). Now you should be able to notice that the shadow is very blurred. This is because the Soft shadows are bitmap images that are projected onto your scene. You can increase their size; the larger the map, the more detailed the shadow is and the sharper the edges will be.

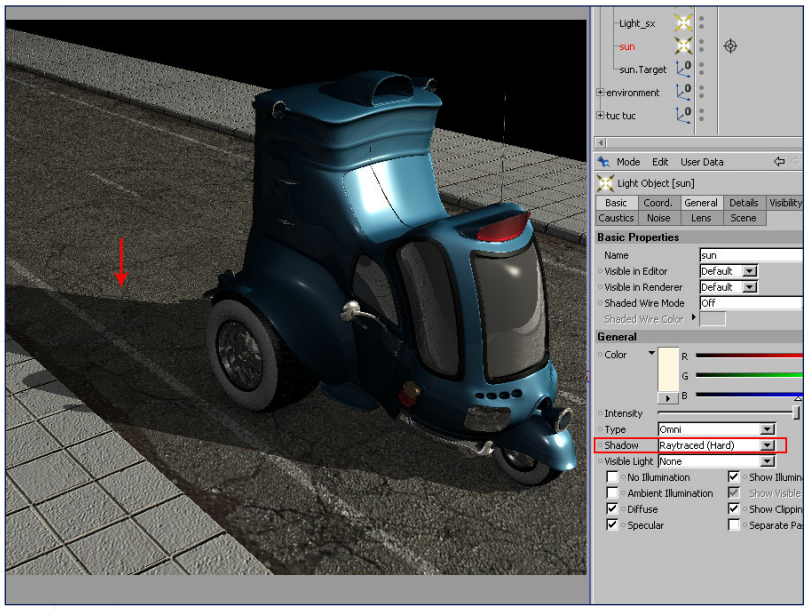
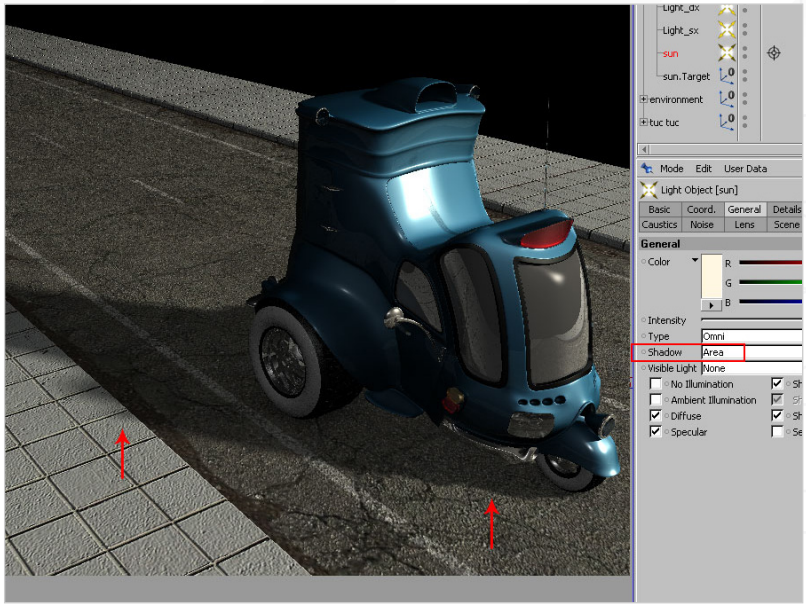


Fig 06

6. Still working on the Sun light, choose the Raytraced (Hard) as the type of shadow. Make a render and you will see how this kind of shadow is very clean and homogeneous (Fig.06).

7. This time I chose the Area shadows. Area shadows are raytraced shadows, but a render (Fig.07) will show us the difference amongst the shadows previously used and this. In fact, they get softer if the distance between the objects is increased, which is important if we want to get a realistic look. In conclusion, we will use the Area shadows since we want a realistic result, even if it means longer rendering times. Speaking of this, we can decrease times of rendering by disabling the Antialiasing option in the Render Setting.

Fig 07



This concludes the first part of Lighting setup & Rig. Next month we will see how to create an HDR probe.

TUC-TUC

Originally Designed & Modelled by
RICHARD TILBURY

Tutorial by:
GIUSEPPE GUGLIELMUCCI
& NIKI BARTUCCI
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lightwave

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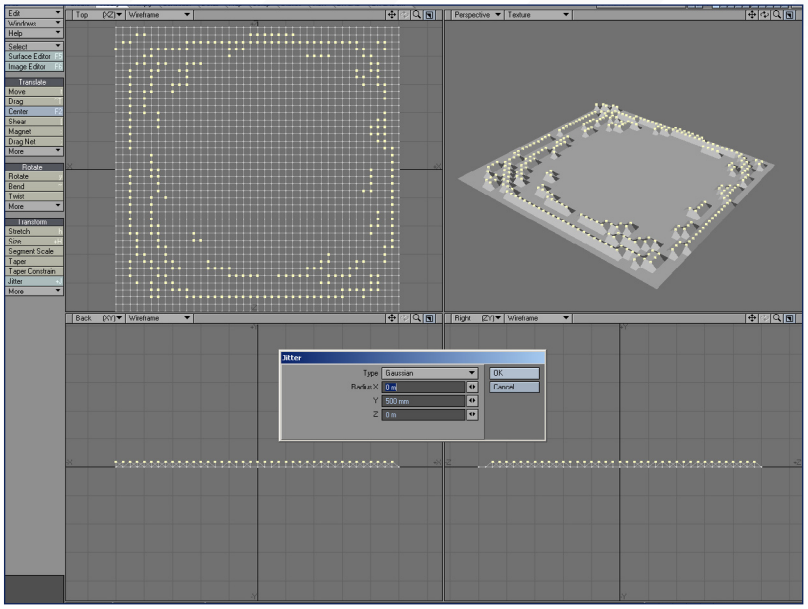
Lighting Setup & Rig (with HDRI) - Part 1

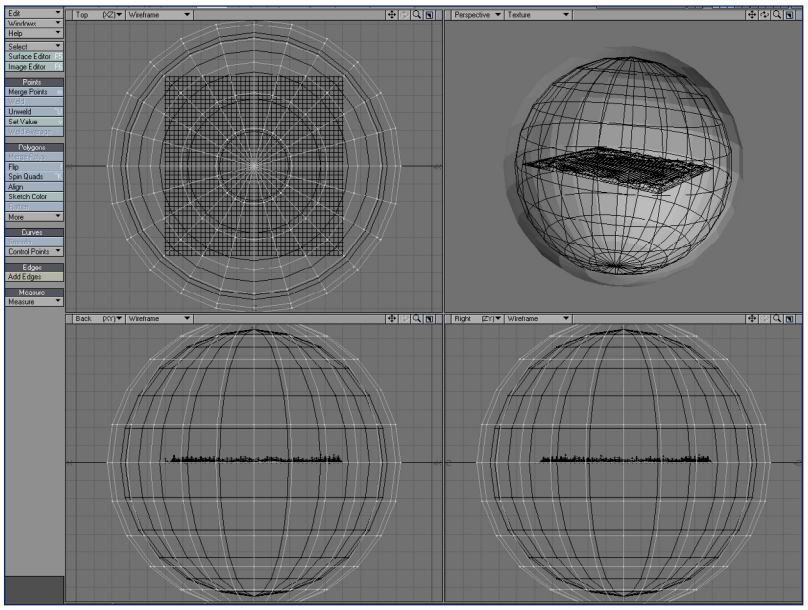
In the previous parts of this tutorial we have covered the process of material creation of our vehicle. Now we are going to create a lighting setup to prepare the vehicle for the final rendering. We are going to concentrate on the vehicle. Only a very basic environment is used, to help you understand the basics behind scene building. If you want, you can use the garage object from the previous 2 parts. So I start with the creation of some additional models that we need for the scene.

Fig 01



1. In Modeller, create the ground for the vehicle. Add a box, choose “Numeric” and make it 20m in width and depth. Leave the height at “0”. Make 40 segments on the X and Z axes. Now randomly select some vertices near the outer edge of the plane and move them up a bit. Next, go to “Modify” - “Jitter”. Choose Type “Gausian” and set the Radius to 0 for X and Z. For the Y-axis, type something around 500mm (Fig.01). Turn on Subpatching (by hitting the <Tab> key) to smooth the ground.

Fig 02



2. Now create a sphere (Fig.02). Go to the second layer and select the “Ball” primitive. Leave all the parameters as default. Choose a radius of 15m on each axis, so that it is a bit bigger than the plane. Once the sphere is created, flip the normals by clicking on “Flip” in the group “Polygon”, tab “Detail”. This makes the polygons face inwards. Copy the sphere and paste it onto layer 3. Scale it up to 110%. Don’t forget to assign a new material to each object, like “ground”, “Inner Sphere”, “Outer Sphere”. You can also name the layers in the “Layer Settings”.

Fig 03

3. If you want to animate the vehicle, you need to create certain single parts, like the fork with the front fender, the front wheel and the backwheels.

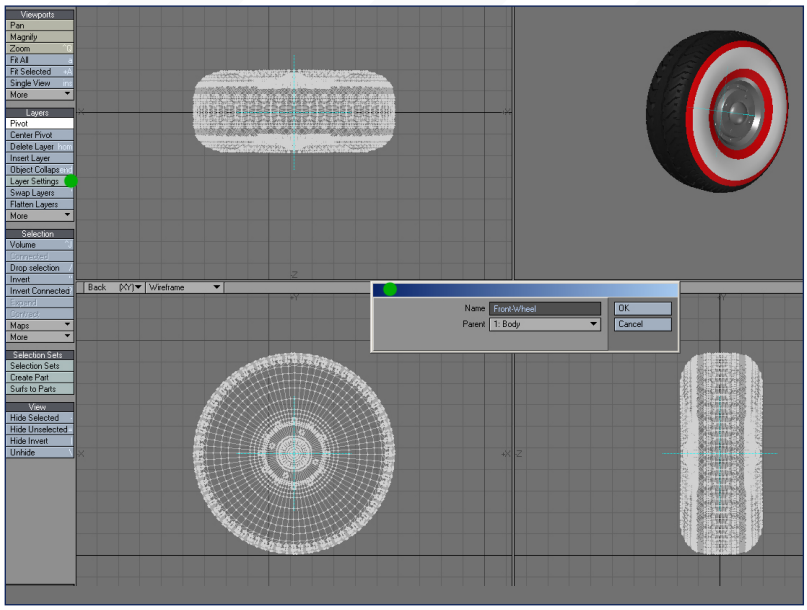


Fig 04

4. For each part, select a name in the “Layer Settings” and select the parent of it – the main body of the car. You need to place the pivot point, which serves as the rotation axis. Fig.04 shows the pivot placement of the front wheel. When you are done with all the parts, save your objects and go to Layout.

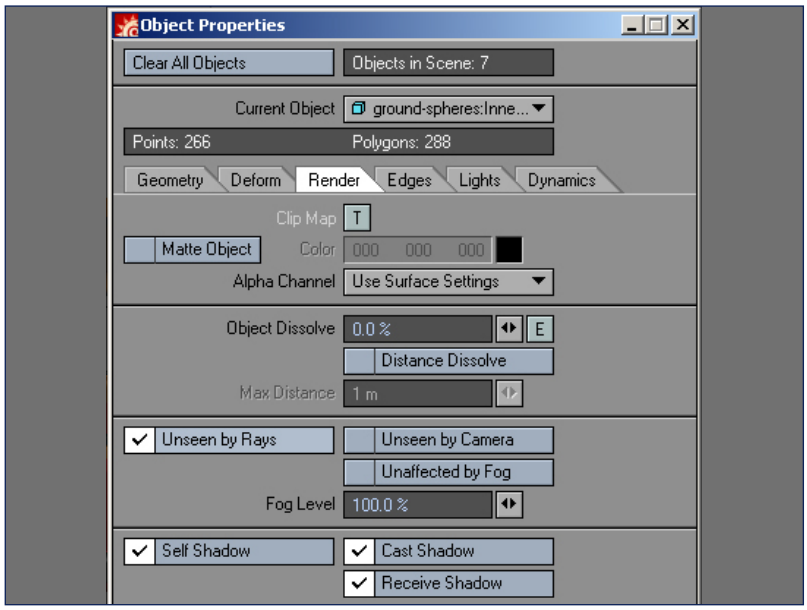


Fig 05

5. The first step in Layout: load all the objects into the scene. For the smaller sphere, go to object properties and check “Unseen by Rays”. This makes the sphere invisible for any light rays. So you see the inner sphere on the render, whilst the outer sphere serves for lighting. You can map whatever you want on the inner sphere.

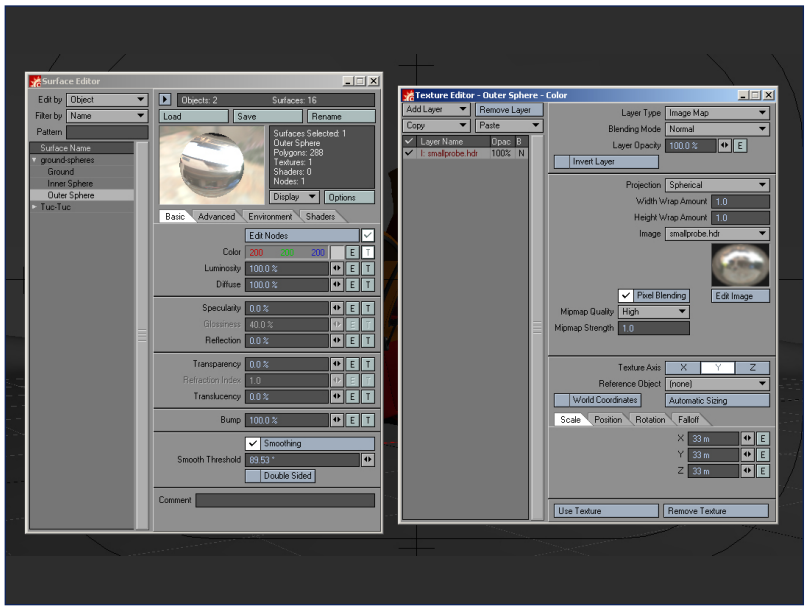
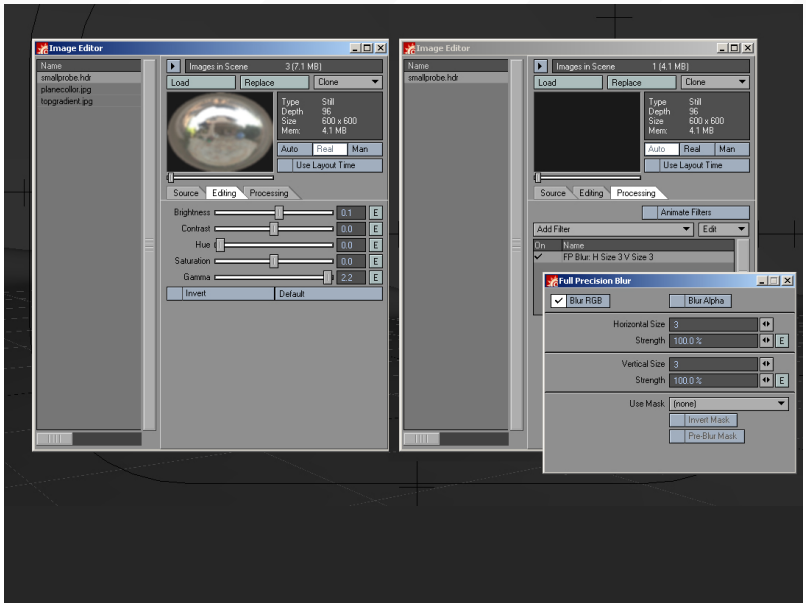


Fig 06

6. Next we go to the surface editor. Select the surface of the “Outer Sphere“. Turn the luminosity to “100%” and check “Smoothing”. For this surface, only the colour channel is needed. We add the HDR image that serves for our lighting to this surface. Projection is “Spherical”, “Texture Axis” is Y. Click “Automatic Sizing” to match the projection sphere to the whole object.The HDR image we use is included in the files accompanying the tutorial. I made a resized version of the image called “smallprobe. hdr”. A smaller HDR image serves for lower render times.

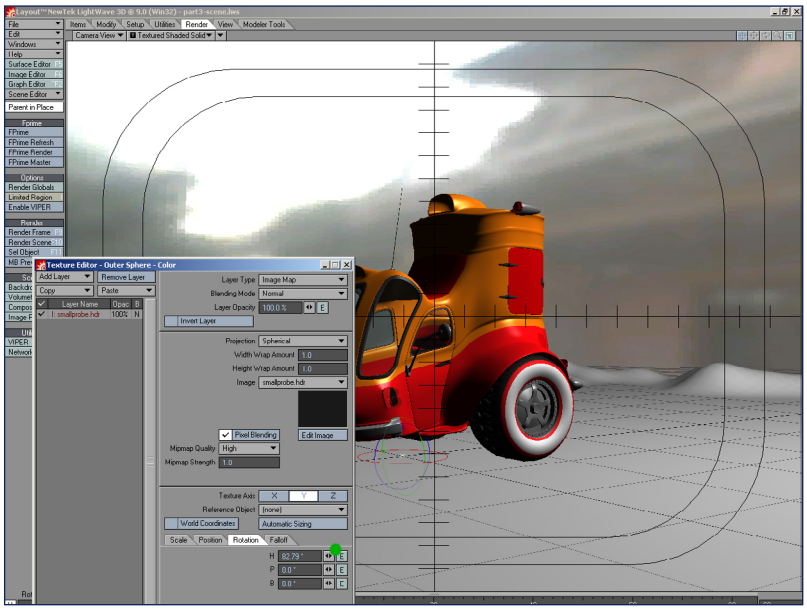
7. Now go to “Image Editor” and select your HDR image, “smallprobe.hdr” or “probe_backporch_FINAL.hdr”. In the “Editing” tab, change the Brightness to 0.1 and Gamma to 2.2. Normally HDR images are rather dark, so this can be seen as a good overall setting.
In the “Processing” tab of the “Image Editor” add the filter “Full Precision Blur” and set a size of “3” (Horizontal & Vertical). The blur reduces artifacts and noise in the lighting generated through the image.

Fig 07



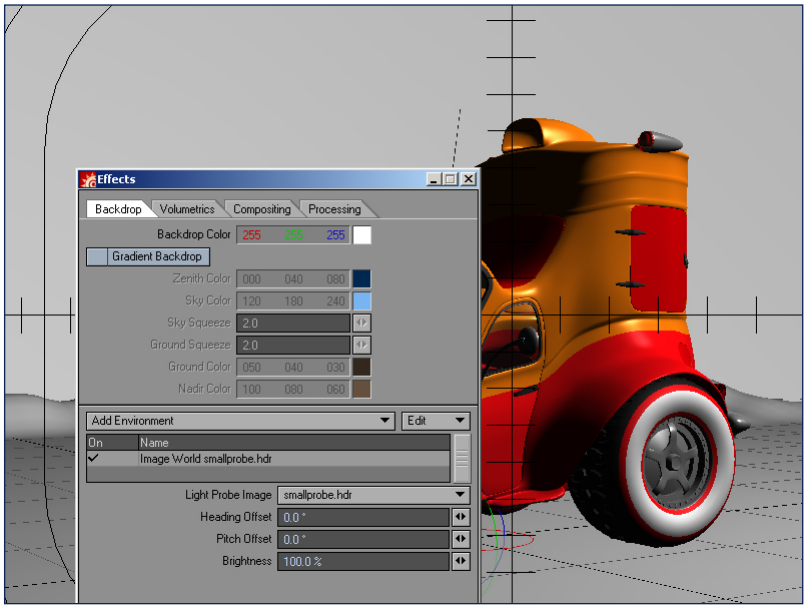
8. We now have an HDR setup using two spheres. If you hide the inner sphere, you can use the OpenGL preview as feedback, to see exactly where the light source in the HDR image is. If you want to have the light source in a different place, just rotate the map in the colour channel of the surface, “Outer Sphere”.

Fig 08



9. There is another method to add an HDR image, if you do not want to create these spheres. You can also add a light probe as an environment. For that, go to “Backdrop” – “Add Environment” and choose “Image World”. There you choose your HDRI as the “Light Probe Image”. Note that you have to load the image in “Image Editor” before you can use it here. This method provides similar results, but you don’t have real time feedback about the map placement. So you have to make test renders until you have the correct placement.

Fig 09



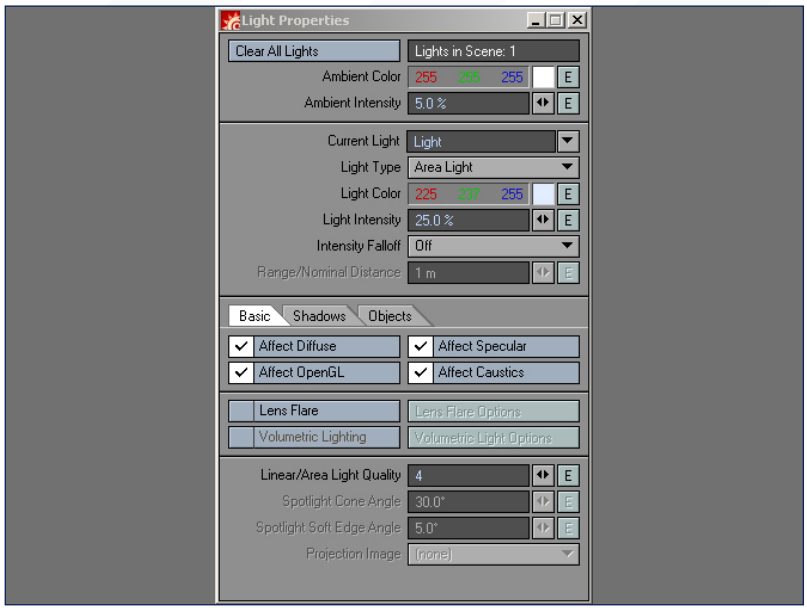


Fig 10

10. Although we have the HDR image to provide the lighting, we also need to create a regular light. This is used for casting additional shadows. Change the default light in the scene to light type “Area light”. Light intensity should be 25%. I chose a slightly blueish colour for the light.

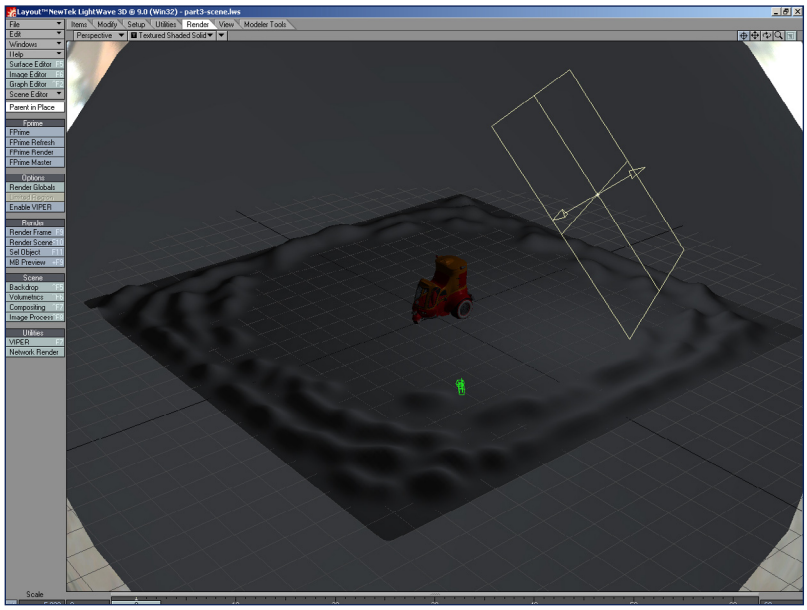


Fig 11

11. Place the light in the scene where the brightest point or the sun is in the HDR image. Just hide the inner sphere and you have feedback about the texture. Also scale this Area Light by a factor of 5. The scaling of this light makes the shadow smoother, but makes longer render times. For sharper shadows, you can scale the light down. But if you want really sharp shadows, you would normally choose another type of light, like a spotlight.

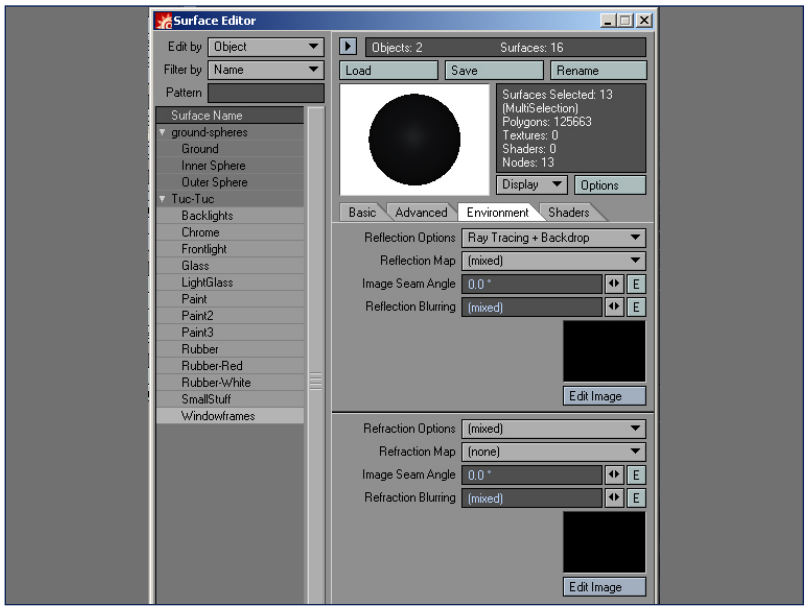
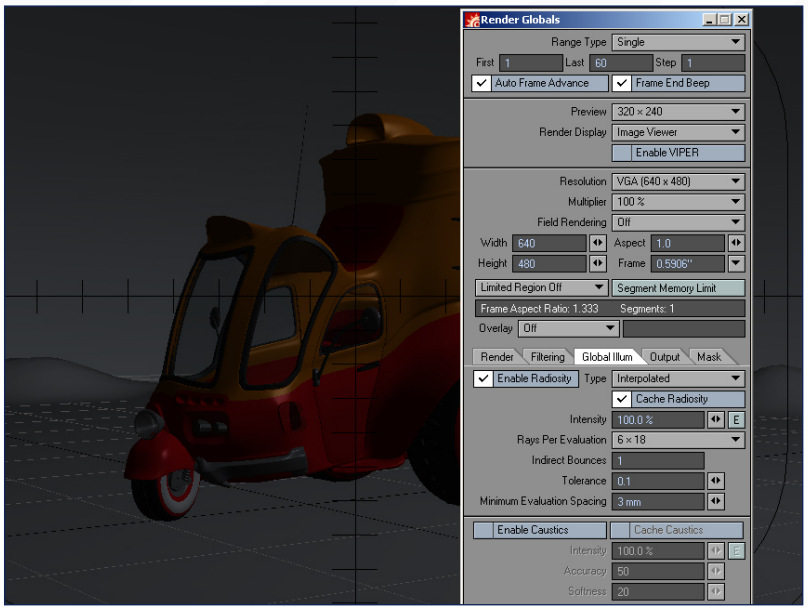


Fig 12

12. In order to see the HDR reflected on the surface of the vehicle, you need to make sure that the “Reflection Options” of all reflecting materials are set to “Ray Tracing + Backdrop”. For this to work, you need to go to “Render Globals”. Check “Ray Trace Shadows”. Also check “Noise Reduction”. For preview renders I suggest you leave “Ray Trace Reflections” and “Ray Trace Refractions” unchecked. Turn it on for final render and be prepared for much longer render times. We will see what we can do about that problem in Part 5 / 6 of this tutorial, where we will take a closer look at the rendering.

13. To have the HDRI light our scene, we need to use Radiosity. So still in the “Render Globals”, go to the tab “Global Illumination”. Set “Radiosity Type” to Interpolated. Choose a rather low value for the “Rays per Evaluation”, where 6 x 18 is a good compromise for preview renders regarding image quality and render speed. Set the “Tolerance” to 0.1 and “Minimum Evaluation Spacing” to 3mm. If you choose very high settings for these entries, your object may appear to be floating over the ground.

Fig 13

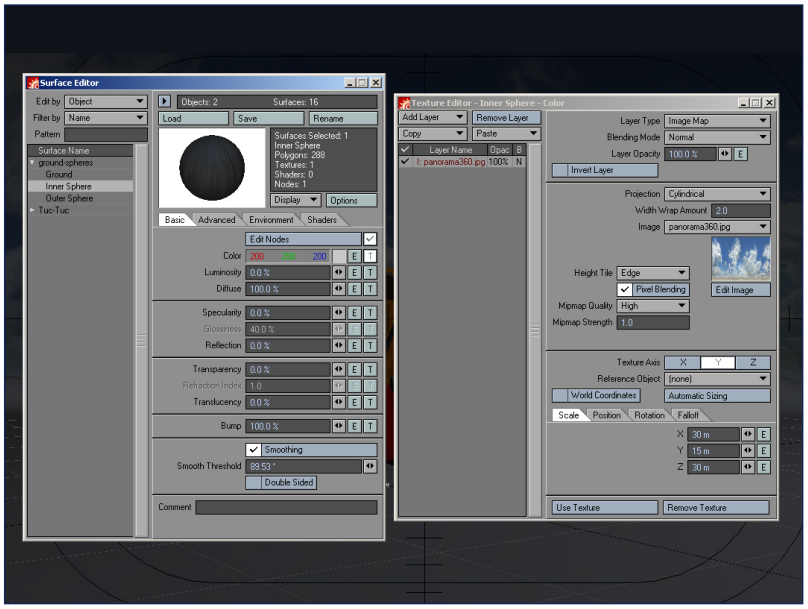


14. If you do a test render now, the look is very unimpressive and “splotchy”. But it provides good feedback on the scene and does not take too much time to compute. We are going to create a texture for the sky, as our scene will be an outdoor scene. We are using a different image on the inner sphere than our HDR image that lights the scene. This shows you the variety that is possible with the scene setup. Keep in mind that it would always be a good idea to choose an HDRI that fits the scene you are going to create.

Fig 14

15. Go to the Texture Editor and choose the surface, “Inner Sphere”. On the colour channel, add the image “panorama 360”. Use cylindrical mapping and wrap it twice around the sphere. Scale it to 30m for X and Z, and to 15m on the Y axis. Also, in the “Position” tab, move the image up a bit. Choose a Y-value of 6.5m. This is because we want to map the upper hemisphere. Set “Height Tile” to Repeat.

Fig 15



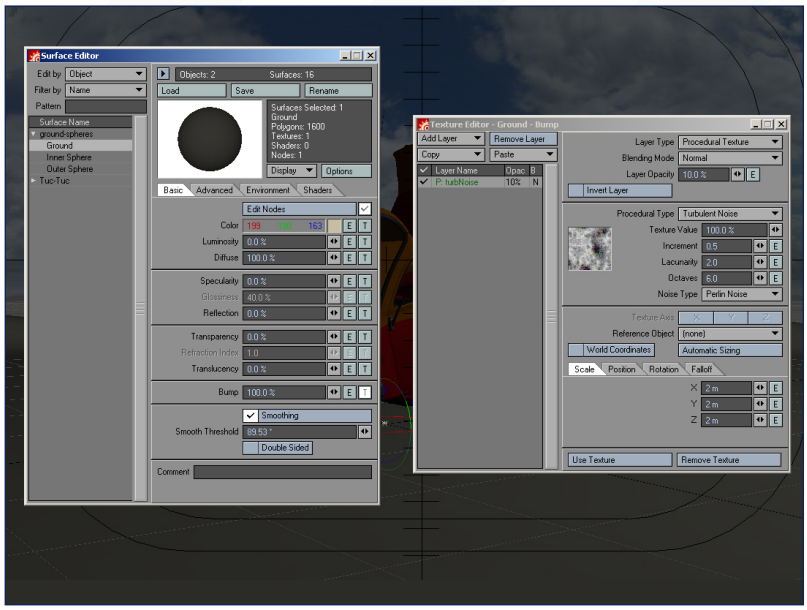


Fig 16

16. Now select the “Ground” surface. We keep it simple, as we want to fully enjoy the HDR lighting. So just choose a colour that fits the background a bit more, rather than the default grey. Also add a procedural bump map if you like. Now the scene is pretty close to the object, and does not provide a good feel of space. So we need to scale the skydome up. Scale both the inner and the outer sphere to X=2.5, Y=1.0 and Z=2.5.

Fig 17

17. It is time for another test render. Note that for this render I turned on Antialiasing at Medium setting and Motion Blur at 100%. I set Radiosity to “Monte Carlo” and “Rays per Evaluation” to 13 x 39. I also turned the “Ray Trace Reflection” and “Ray Trace Refraction” back on. And of course I waited over an hour for the render at frame 1. Now again, this proves there is a lot that has to be optimized to render out images faster and with good quality, besides just playing with the render settings.

In Part 4 we are going to optimize the scene setup for faster renders and quality, but still make the scene a bit more interesting by adding a few more elements. If you have questions about this part of the tutorial, please feel free to contact me via my website.

TUC-TUC

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Tuc-Tuc

Maya

Is our new precise, step-by-step tutorial which will begin with a vehicle model and cover the principals of applying shaders, placing it in a simple scene and following with a two-part section on both lighting and rendering. The tutorial will begin by creating and applying materials for the various parts of the car, such as glass, chrome and tyres, as well as texturing some simple geometry that will make up a scene. It will then move onto lighting where the focus will be on setting up a lighting rig and the various parameters connected to this. Finally the series will culminate with a section on rendering, where the aim will be to finish with a polished image. The schedule is as follows:

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Issue 020 April 2007
Lighting Setup & Rig (with HDRI) Part 2

Issue 021 May 2007
Rendering Part 1

Issue 022 June 2007
Rendering Part 2

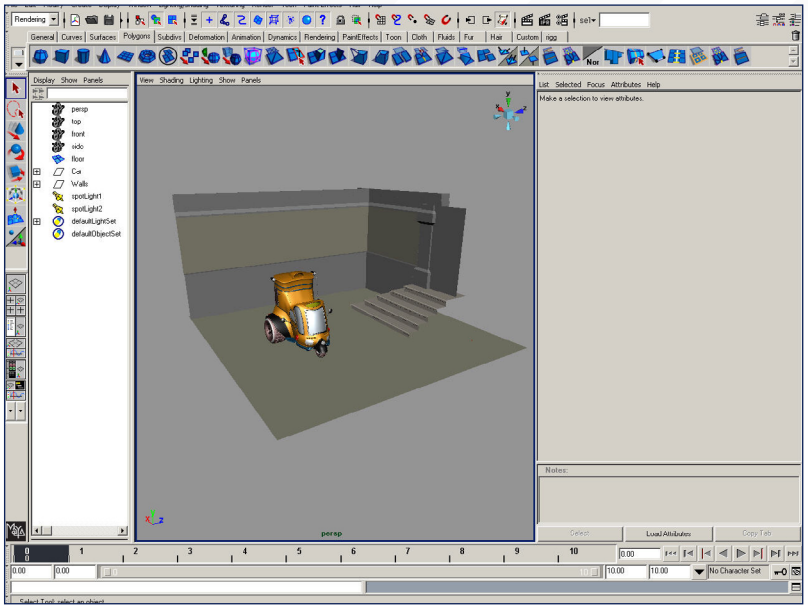
Enjoy ...

Lighting Setup & Rig (with HDRi) - Part 1

We're going to start this Lighting Setup & Rig with a short presentation of HDRI (High Dynamic Range Image). An HDRI image is a format that has multiple levels of exposure. Those different levels of exposure can be used to obtain a much more dynamic range for things like reflections.

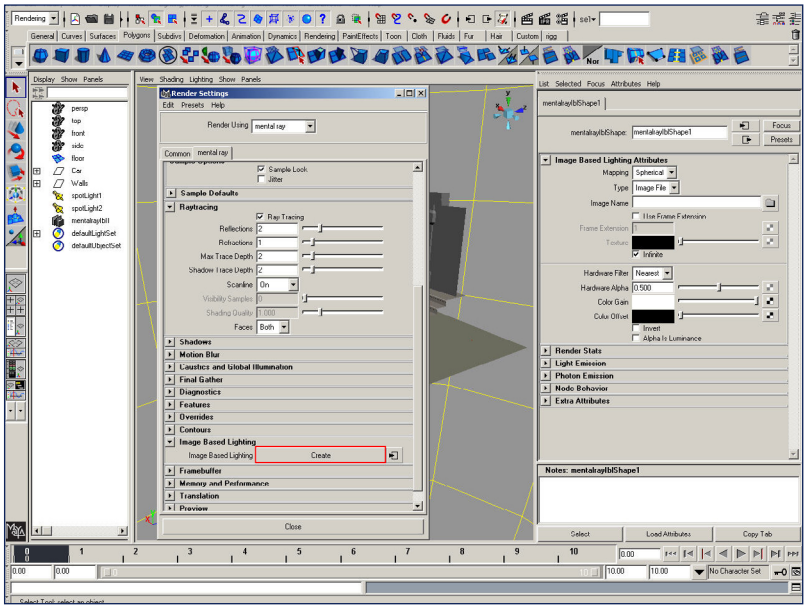
1. As you can see in Fig.01, the scene is very simple. I've created some sort of environment: walls, stairs, etc., in order to use it during this tutorial as example of how Global Illumination (GI), Final Gathering (FG) from Mental Ray, is used in this environment to reflect the photons and to create secondary lights.

Fig 01



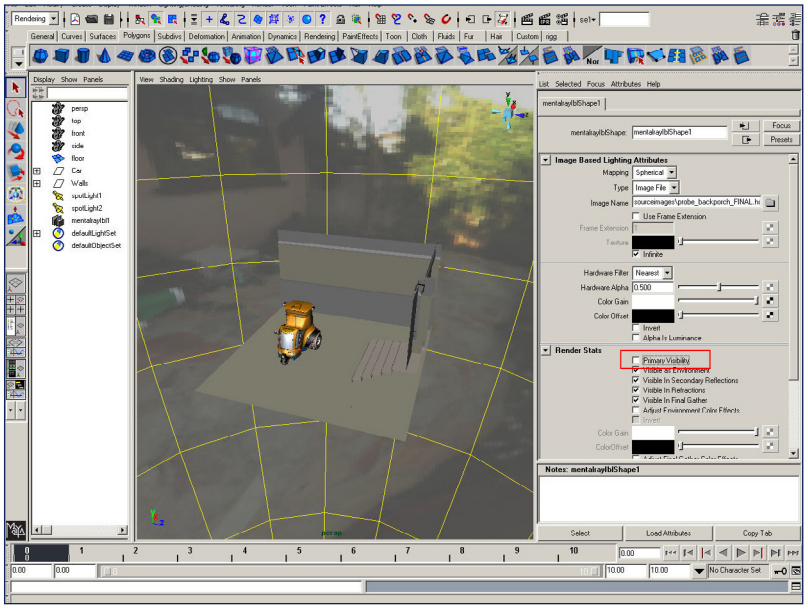
2. I'm going to start by creating an Image Based Lighting (IBL) node, which is just a sphere primitive which can be rotated, scaled or translated, just like any other Maya node. In Render Globals I'm going to open up IBL. Push create button as in Fig.02. On the right side of the image you can see the attribute editor of IBL. In the "Image Name" tab load the file, "probe_backporch_Final.hdr". You should now be able to see a spherical projection of the image in your scene.

Fig 02



3. The next thing I need to do is to turn off "Primary Visibility". This is because I don't want to see this sphere in the render. Even if I'm not turning off the primary visibility the final rendered image will have an alpha channel.

Fig 03



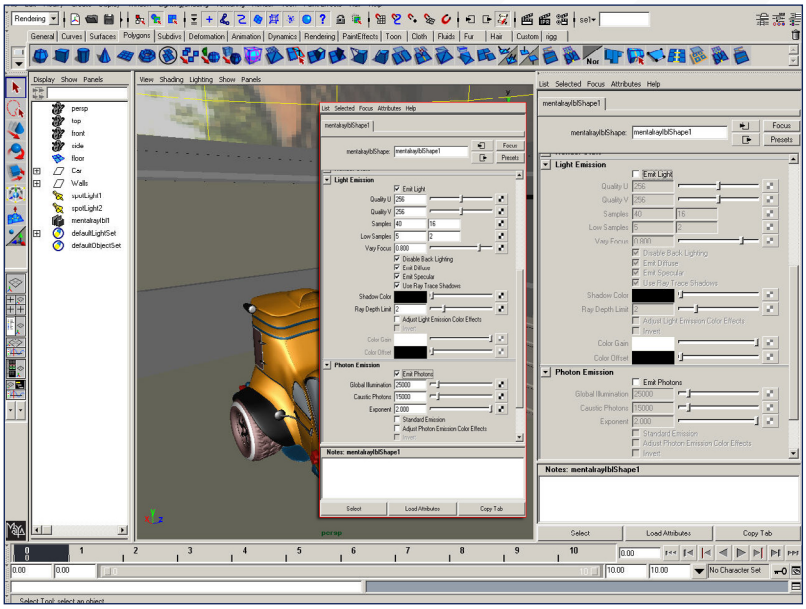


Fig 04

4. Right bellow the Render Stats tab you should be able to see two tabs, “Light Emission” and “Photon Emission.” We’re not going to talk too much about this right now since we’re going to cover them on the last two tutorials “Rendering 1 and 2”. Light Emission is actually simulating one big area light. As any area light, it is very much time expensive for rendering. This is usually used in combination with FG. Photon Emission is emitting Caustic and/or GI Photons and it is used in combination with Caustics and/or Global Illumination from Mental Ray Render Global properties. But we’re not going to use any of these right know, so just leave it turned off, as in Fig.04.

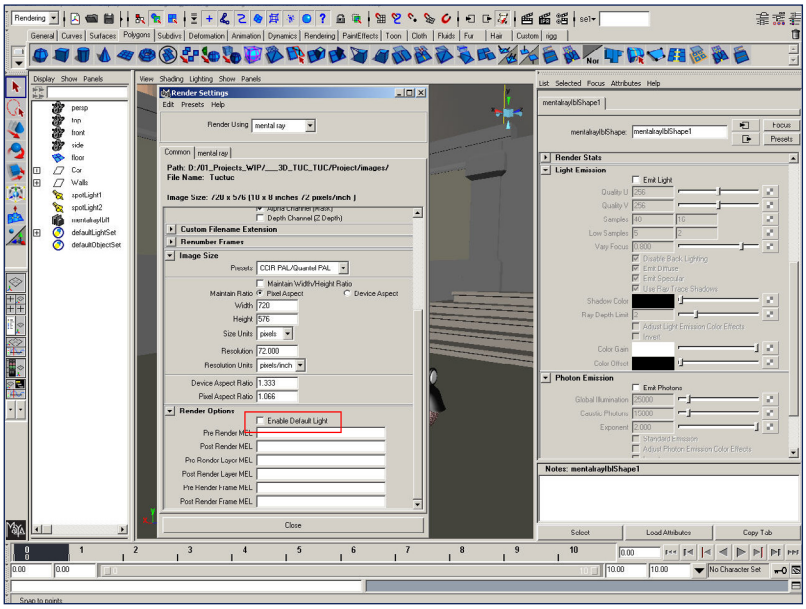


Fig 05

5. The next thing that you should do is to turn off “Enable Default Light” from the Render Settings window, as in Fig.05. When creating a new scene, Maya is automatically putting a default light into the scene. We need to turn it off in order to use Image Base Lighting.

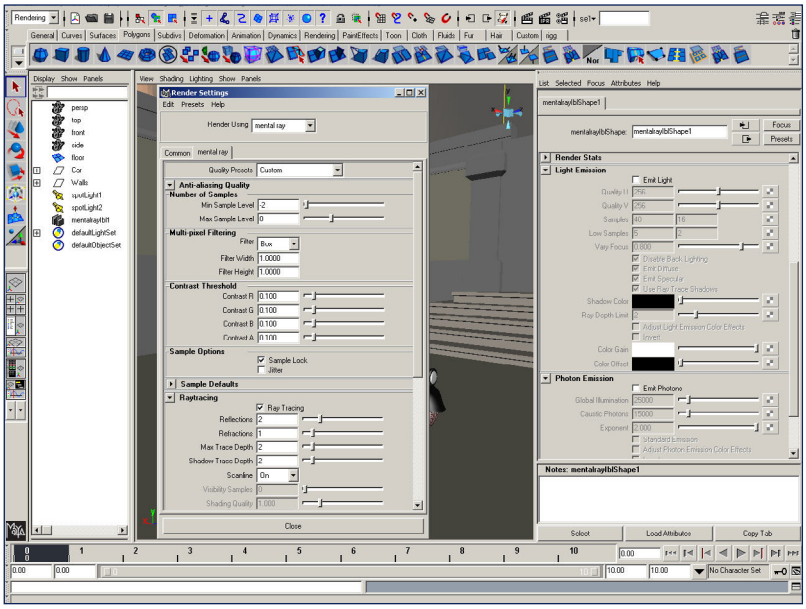
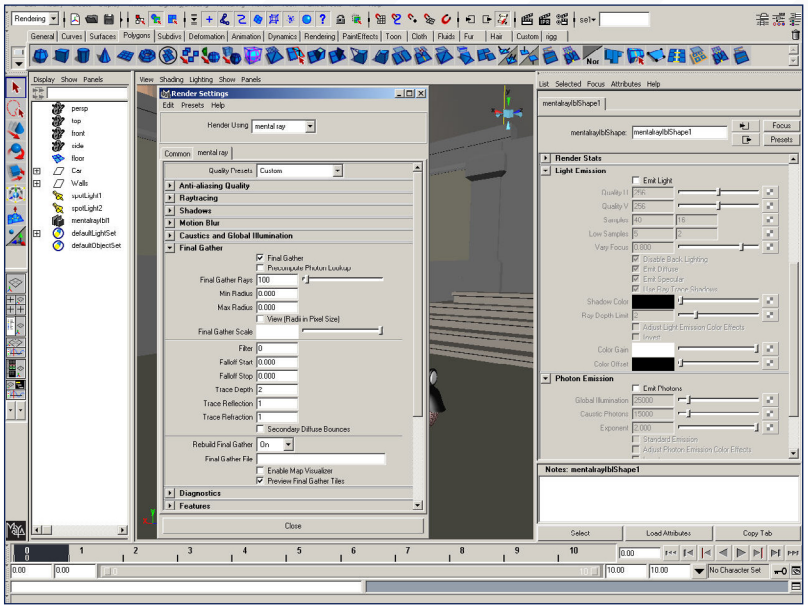


Fig 06

6. Now, under the Mental Ray tab from the Render Settings window, check if the number of samples is low (Min Sample Level = -2, Max Sample Level = 0), and the multi-pixel filtering has the filter set to Box. This way your render will be much faster (Fig.06).

7. We're going to use - on this tutorial only - Final Gather. Set the Final Gather Rays to 100 and leave the Min Radius and Max Radius to 0, as in Fig.07. These settings, combined with IBL, are going to help us to render quickly.

Fig 07

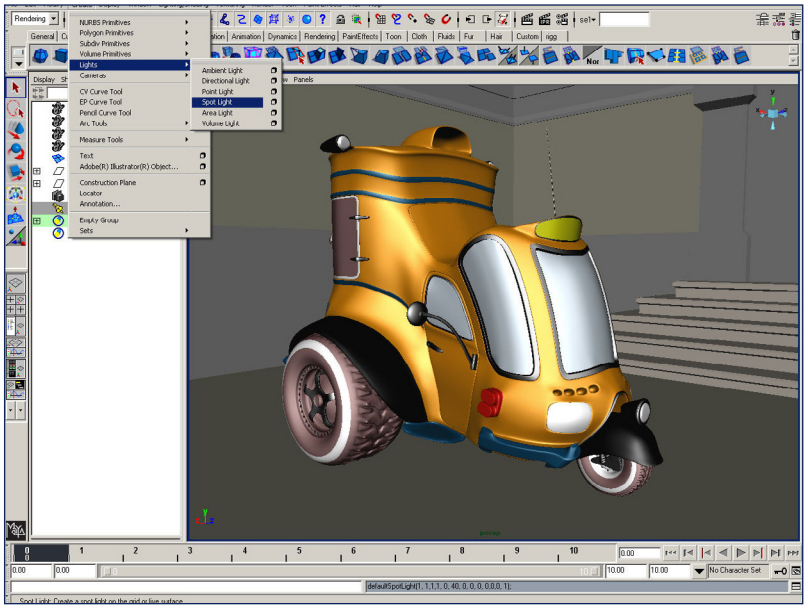


8. In Fig.08 you can see a render using those settings. As you can see I have sharp edges and spots on the walls, but all these nasty things are going to disappear as soon as we increase the level of samples and the number of Final Gather Rays. This will also go to increasing the amount of time used for rendering.

Fig 08

9. Now, I would like to add 2 more blue lights in order to create a fake sky reflection on the car. Create > Light > Spot Light. As you can see, there are 6 types of lights, but Spot Light is definitely one of my favourites, since it gives me many options (Fig.09).

Fig 09



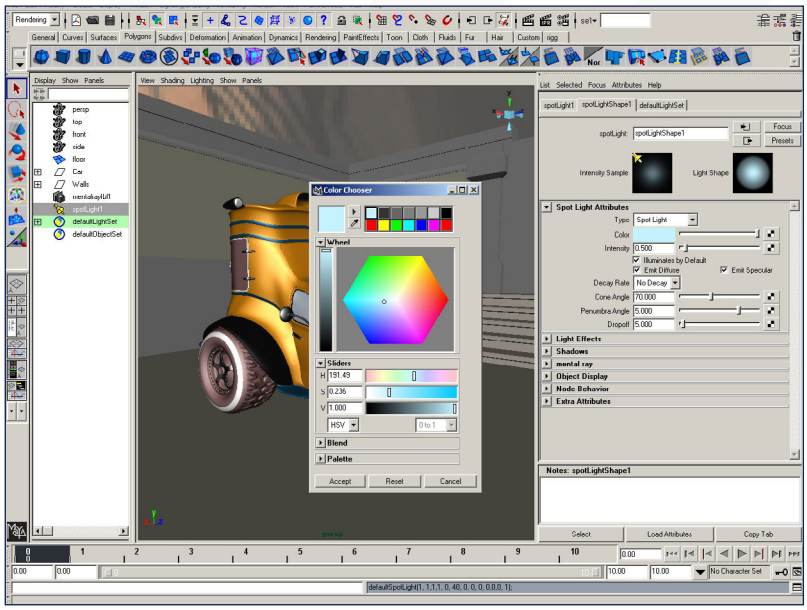


Fig 10

10. Click in the colour tab and choose a blue colour. I've lowered the intensity to 0.500 since I just want it to be a fill light (Fig.10). I've also increased the Cone Angle to 70, the Penumbra Angle to 5, and Dropoff to 5.

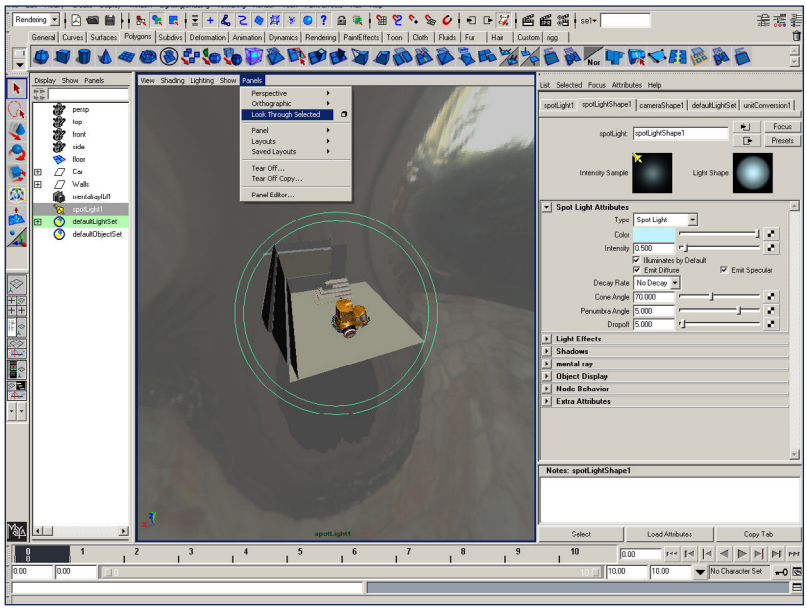


Fig 11

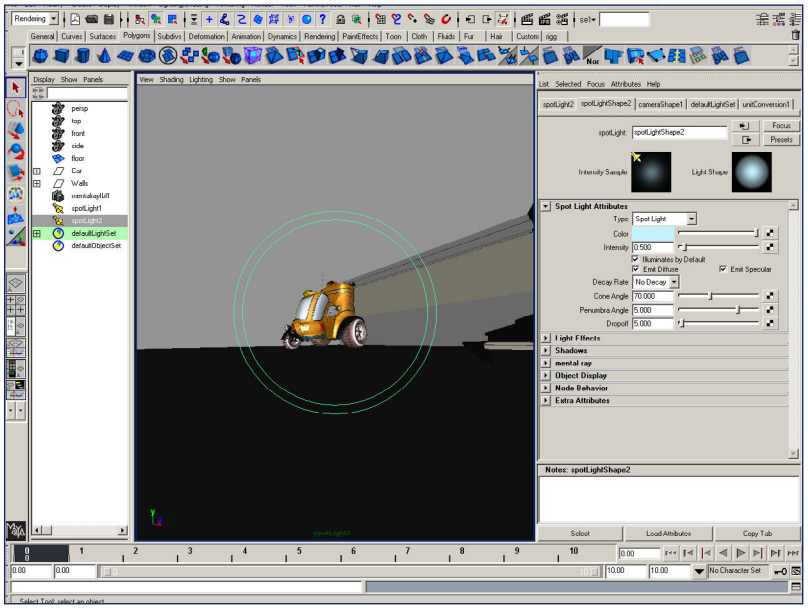
11. Now adjust the position of the light. I have found it to be very easy to adjust the position when I am inside the light, as in Fig.11. This way I can see the entire scene as it is seen by the light itself. So it is very easy to adjust the position whilst looking through the light's camera. For this, select the Spot Light in the Outliner and click on Panels, then select Look Through.

Fig 12

12. In Fig.12 I've made a render only with the first fill light. As you can see I have a blue colour coming from the upper, left corner. I'm pretty much happy with it.

13. Now I am creating an opposite blue light as in Fig.13. I'm doing this because otherwise the difference between the lighting for the left and right side the my car will look very unrealistic.

Fig 13



14. In Fig.14 I've made a render using both fill lights.

Fig 14

15. On Attribute Editor uncheck the Emit Specular for both lights. I've done this because I just want to have a diffuse blue colour on the car. So I've turned off the Emit Specular. (Fig.15).

Fig 15

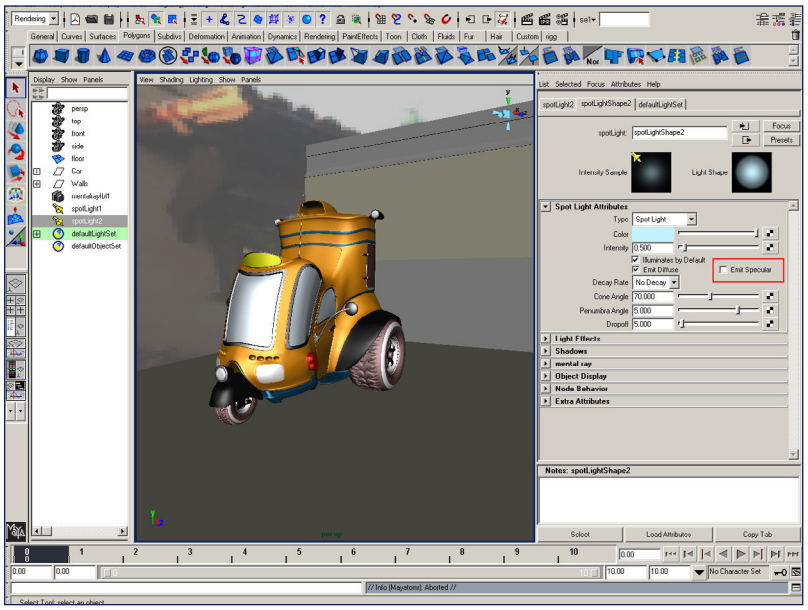


Fig 16

16. Now, as you can see I have a nice blue colour reflecting in the car and the difference between the left and right sides are much lower (Fig.16).

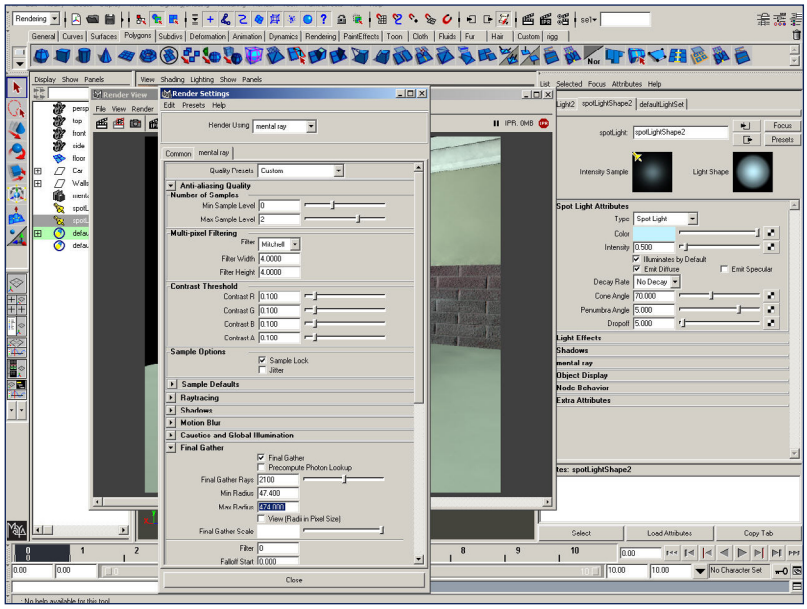


Fig 17

17. Now open the Render Settings and prepare the scene for a high quality render. Change the Min and Max Sample Levels to 0 and 2, Filter to Mitchell and Final Gather Rays 2100. The Min and Max Radius is calculated based on the size of the objects in the scene. Change the value of the Min and Max Radius, as in Fig.17. All of these aspects, as well as turning the Final Gather Rays and many more things regarding render settings, will be fully covered in the rendering part of the tutorial.

Fig 18

18. The render of the final image could take you a little bit of time, depending on the power of your computer. As you can see in Fig.18, all those nasty spots from the walls and crisp edges are gone, and we have a nicely rendered image.

TUC-TUC

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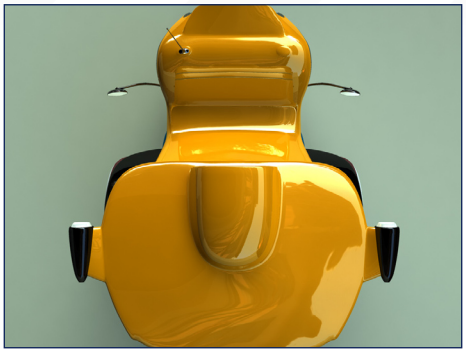

Tuc-Tuc

SOFTIMAGE | XSI

Is our new precise, step-by-step tutorial which will begin with a vehicle model and cover the principals of applying shaders, placing it in a simple scene and following with a two-part section on both lighting and rendering. The tutorial will begin by creating and applying materials for the various parts of the car, such as glass, chrome and tyres, as well as texturing some simple geometry that will make up a scene. It will then move onto lighting where the focus will be on setting up a lighting rig and the various parameters connected to this. Finally the series will culminate with a section on rendering, where the aim will be to finish with a polished image. The schedule is as follows:

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Issue 021 May 2007
Rendering Part 1

Issue 022 June 2007
Rendering Part 2

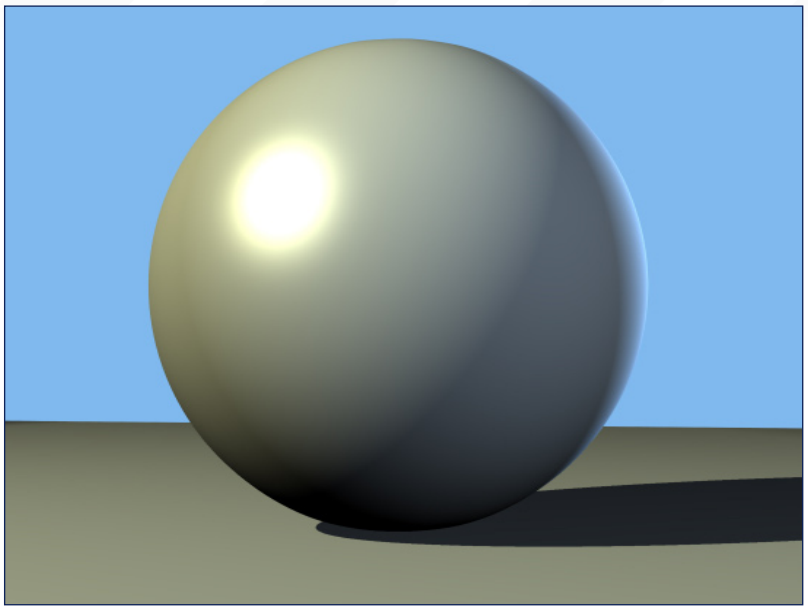
Enjoy ...

Lighting Setup & Rig (with HDRi) - Part 1

Last month we completed the shaders and materials for the vehicle. This time we will concentrate on how to light the whole scene. In the first part of the tutorial we will see how to set up a simple 3-points-light rig, while in the second we will set up some Global Illumination (GI from now on).

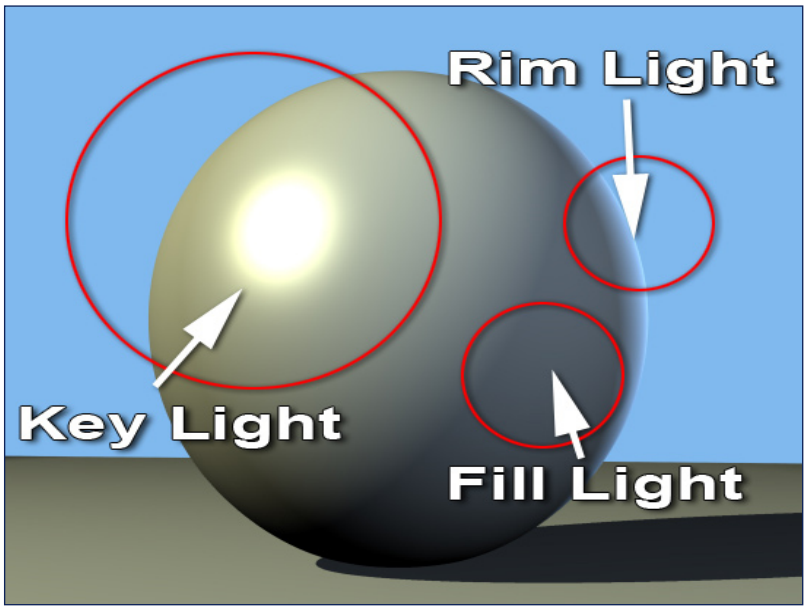
1. Have a look at Fig.01, it shows a simple sphere lit by a 3-points-light system (or rig).

Fig 01



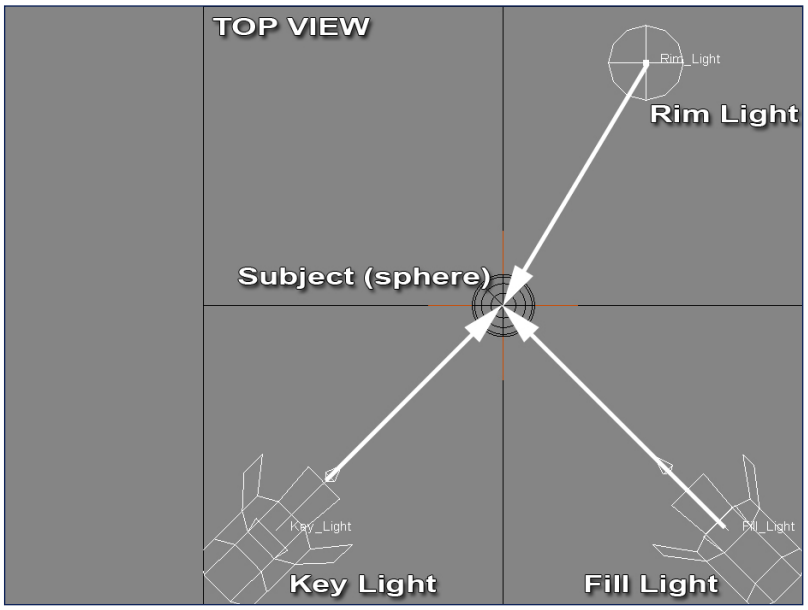
2. Let's examine how the lighting is divided. In Fig.02 you can see three main areas: Key Light, Fill Light and Rim Light. The Key Light is the main source of light of your scene (for example, the sun; or maybe a light bulb for an interior scene). This light is usually a Spot Light; it's the strongest light in the scene. The Fill Light (usually a Spot Light, too) is a weaker light that works together with the Key Light to create the main lighting of the subject. It does not cast shadows, because it's up to the main Key Light to cast the shadows and the general mood of the scene. Finally, the Rim Light (usually a Spot Light, but it may also be a Point/Omni light) gives the subject some sort of back illumination. It is a strong light source and it has to cast shadows as well. Usually it illuminates only the subject (meaning, every other object in the scene must be excluded from this light).

Fig 02



3. Now let's see how these 3 lights are positioned in the scene, relative to the subject. In Fig.03 you can see the subject (the sphere, in our case) in the middle; the Key Light is positioned at about 45° away from the subject axis. The same goes for the Fill Light, but it is usually put lower on the Y axis. The Rim Light is positioned behind.

Fig 03



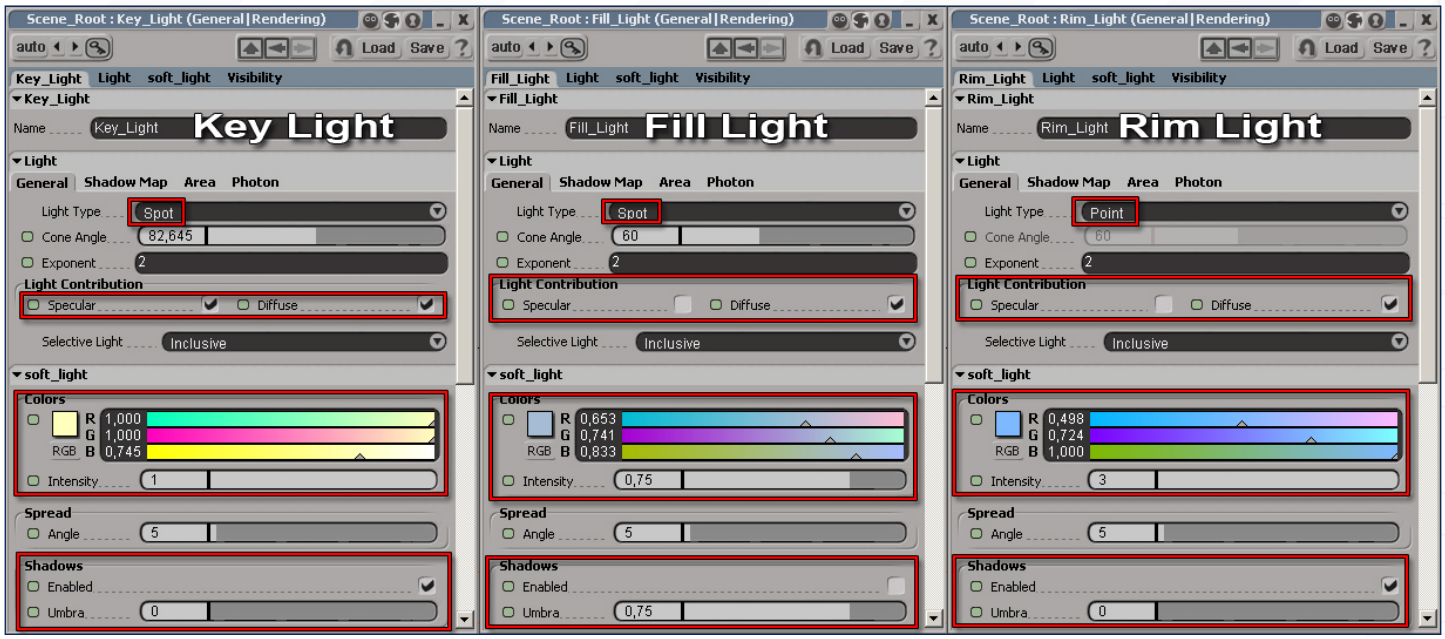


Fig 04

4. In Fig.04 you can see the properties of these lights: Key Light is a Spot, which affects both Specular and Diffuse; it's set to a bright yellow with Intensity = 1, and it casts shadows. Fill Light is a Spot, too; it only affects Diffuse (not Specular); it's blueish and it has a lower value for Intensity (0,75); it does not cast shadows. Rim Light is a Point light; it only affects Diffuse; it's blueish but with a strong value for Intensity (3 or more); it casts shadows.

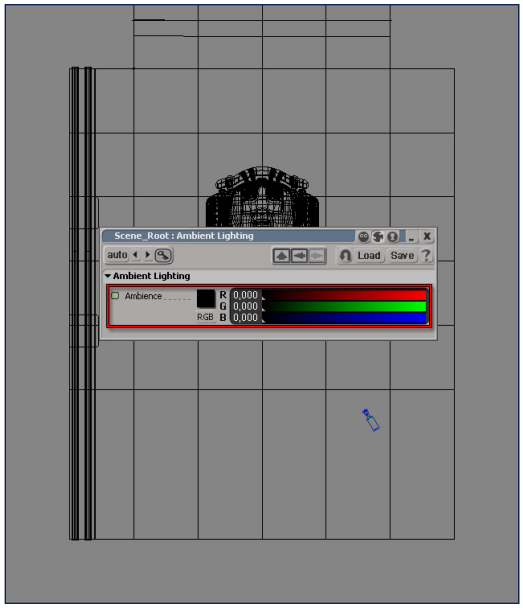


Fig 05

5. Now let's try to recreate this light rig in our Tuc Tuc scene. Open it up, and set the Ambience to pure black (Render / Ambience menu), as it must not interfere with the lighting of the scene (Fig.05).

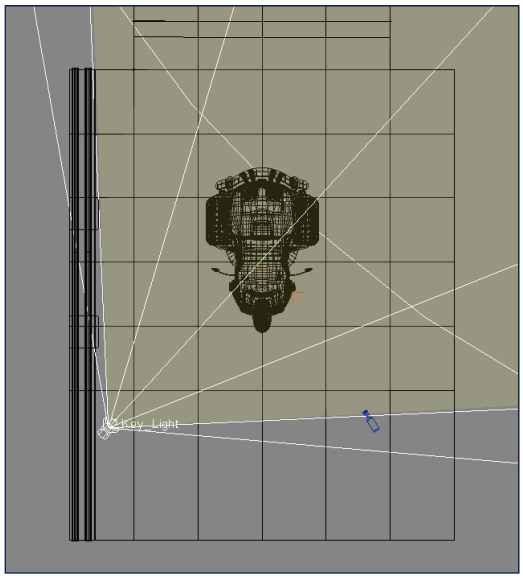
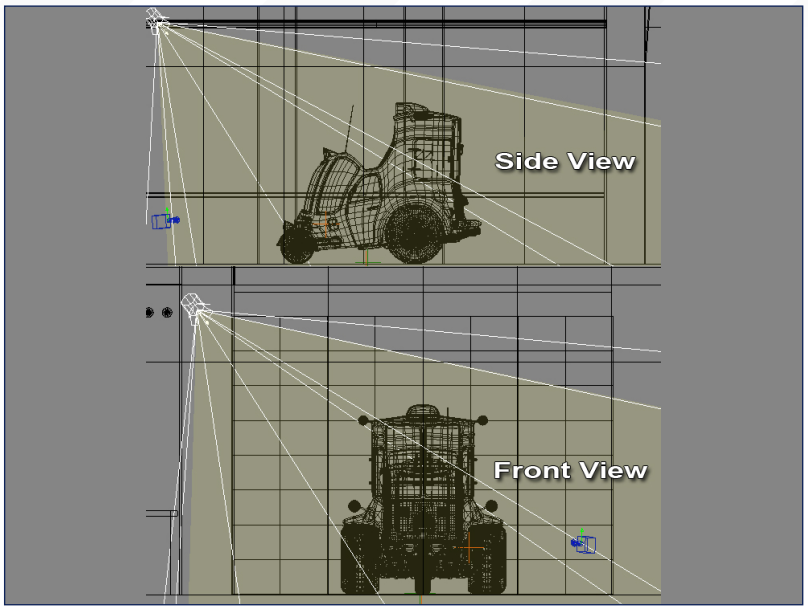


Fig 06

6. Create a Spot in the Top view and name it "Key_Light". Make sure that the Key Light has a nice, wide range (Fig.06).

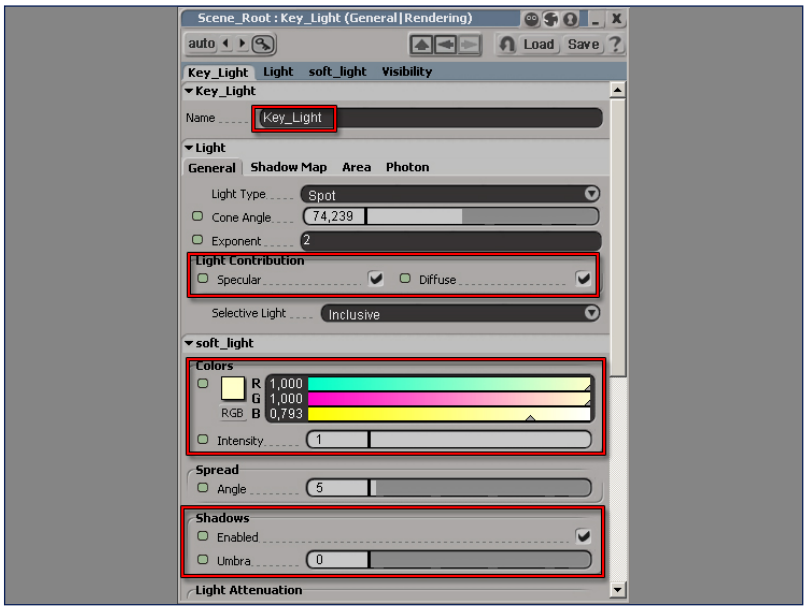
7. Check the side and front views, too (Fig.07).

Fig 07



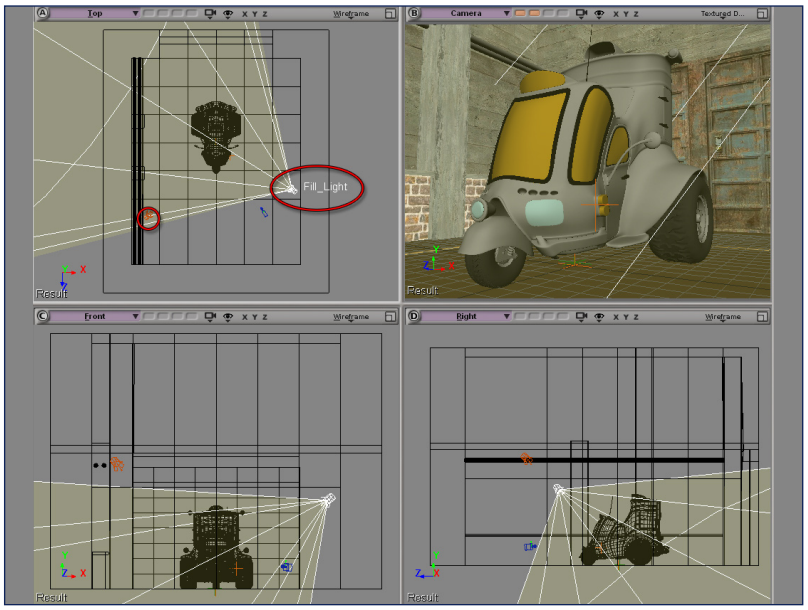
8. Set the properties for the Key Light (Fig.08); check both Specular and Diffuse in the Light Contribution tab; set its colour to bright yellow and its Intensity to 1; enable Shadows and set the Umbra value to 0.

Fig 08



9. Create another Spot, name it Fill_Light and position it as shown in Fig.09.

Fig 09



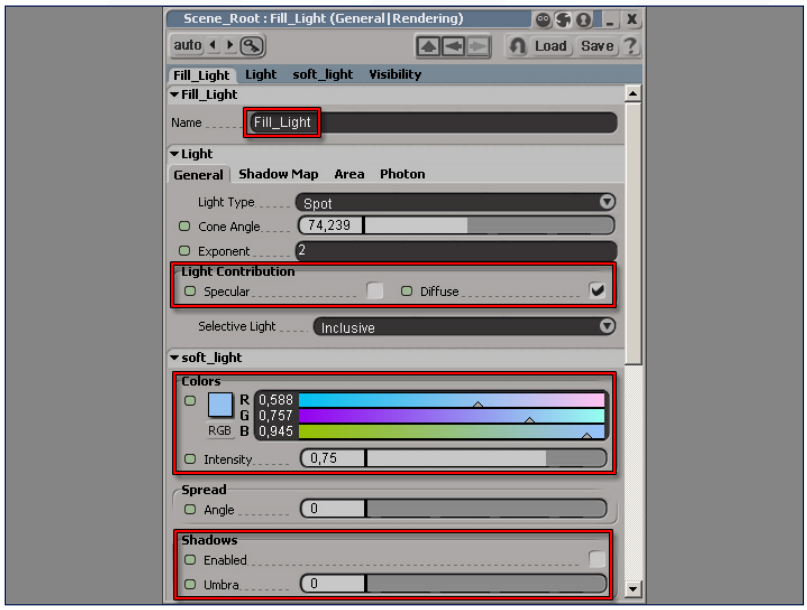


Fig 10

10. Open the Fill Light property page and set the parameters as shown in Fig.10.

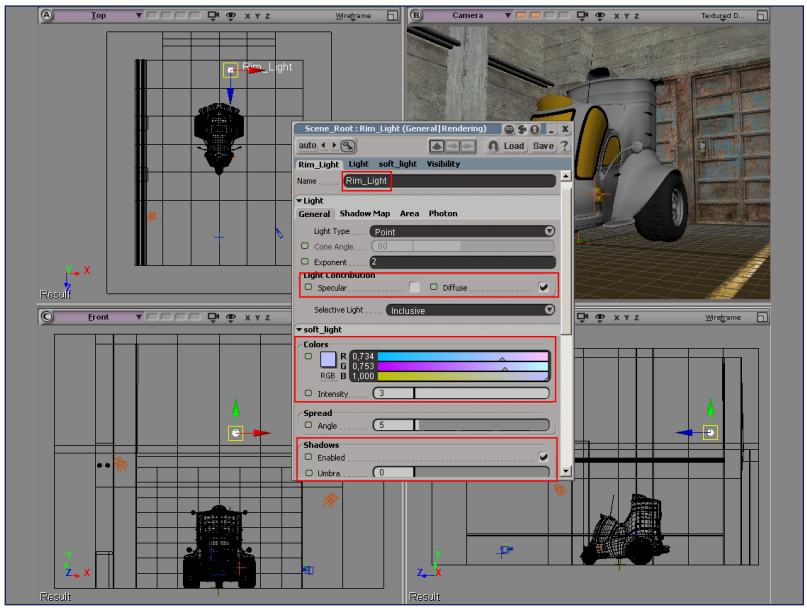


Fig 11

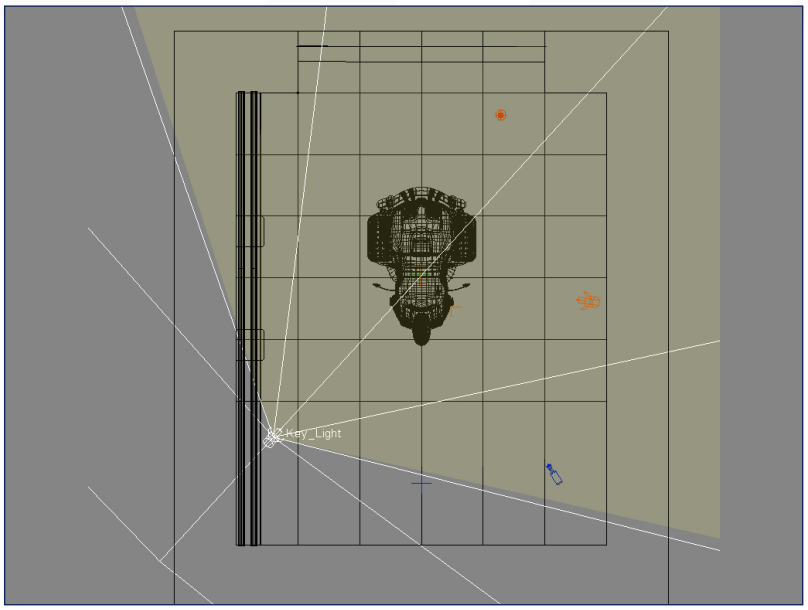
11. Now create a Point light, name it Rim_Light and move it in the position as shown in Fig.11. Also, set its parameters as shown in the middle of Fig.11, on the property page.

Fig 12

12. Do a quick Render Region to see how it's going (Fig.12). Do not worry about the environment being too dark.

13. Select Key_Light and make its range wider (you can alter its property in the property page, or you can use the B shortcut key whilst the light is selected to interactively change its ranges in the viewports), as shown in Fig.13. Also, move the Fill Light aside.

Fig 13

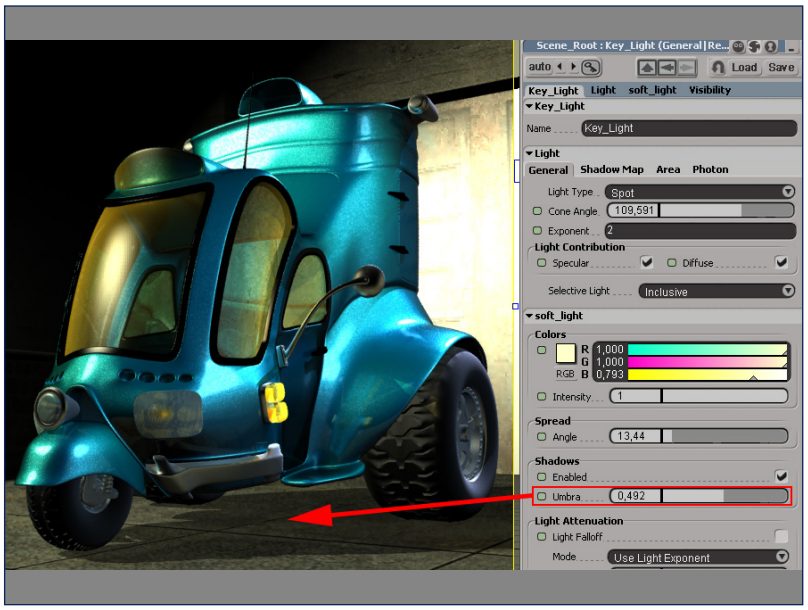


14. Do another Render Region to see the changes (Fig.14).

Fig 14

15. Now you can slightly change the Umbra value for the Key_Light to make the shadows brighter (Fig.15). As you can see, the rendering is lacking some light bounces and colour bleeding - it's too flat. So, let's try another approach to light a scene.

Fig 15



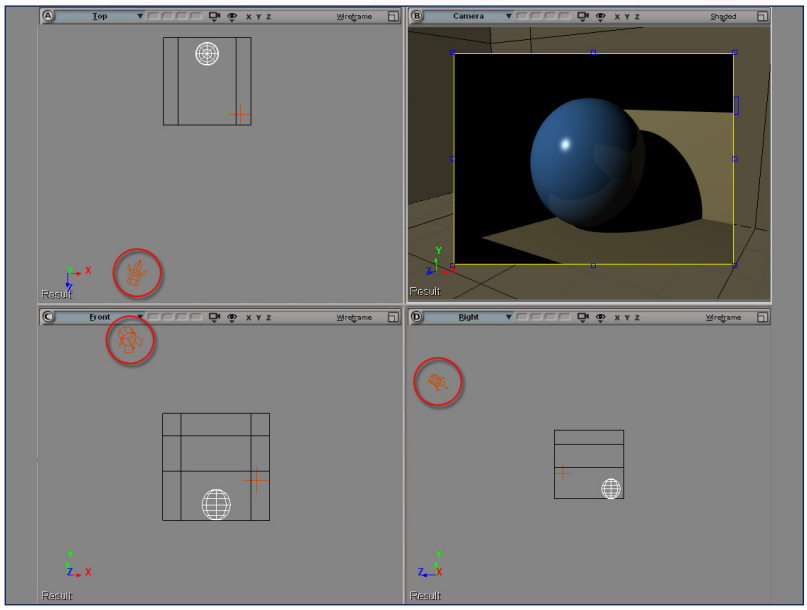


Fig 16

16. As earlier, let's see how it works on a simple scene before messing around with our more complex TucTuc. The scene is made up of a box with a hole on one of its faces and a sphere inside of it. A Spot light comes from outside and it casts black shadows inside the box and on the sphere (Fig.16). The Ambience is set to pure black.

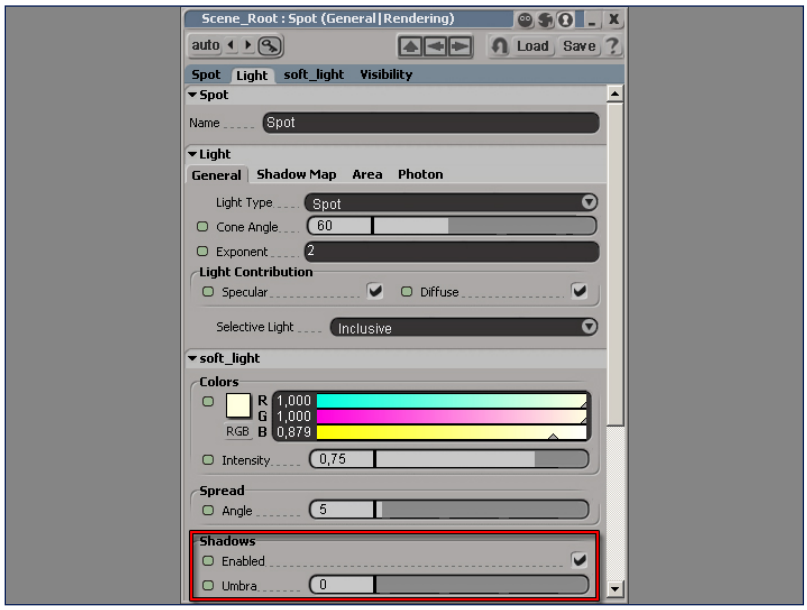


Fig 17

17. You can see the properties of the Spot light, in Fig.17.

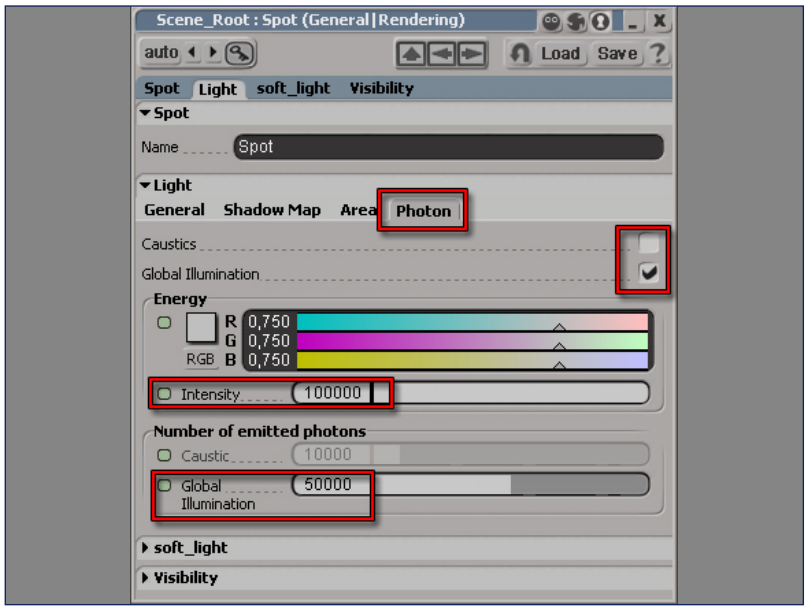
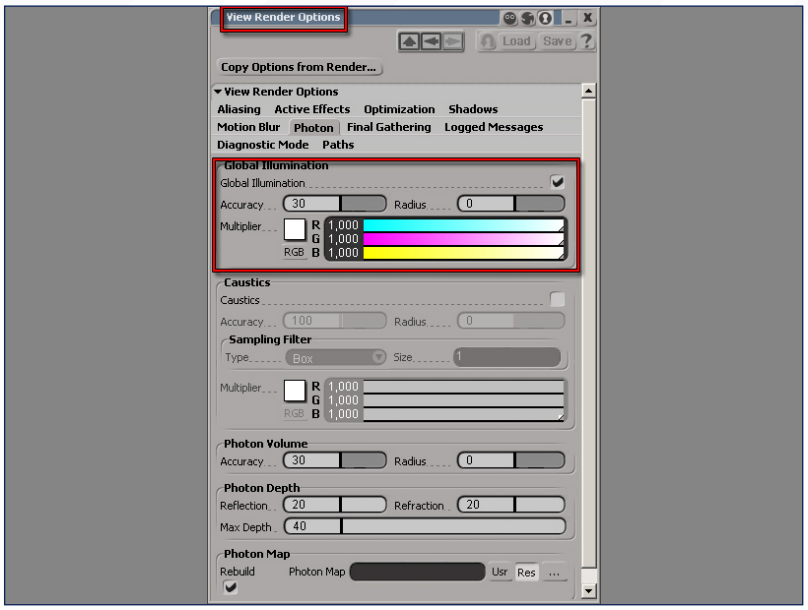


Fig 18

18. In the Photon tab of the Spot property page the option Global Illumination is enabled, and its Intensity value is set to 100.000. The Number of emitted photons is raised up to 50.000 (Fig.18).

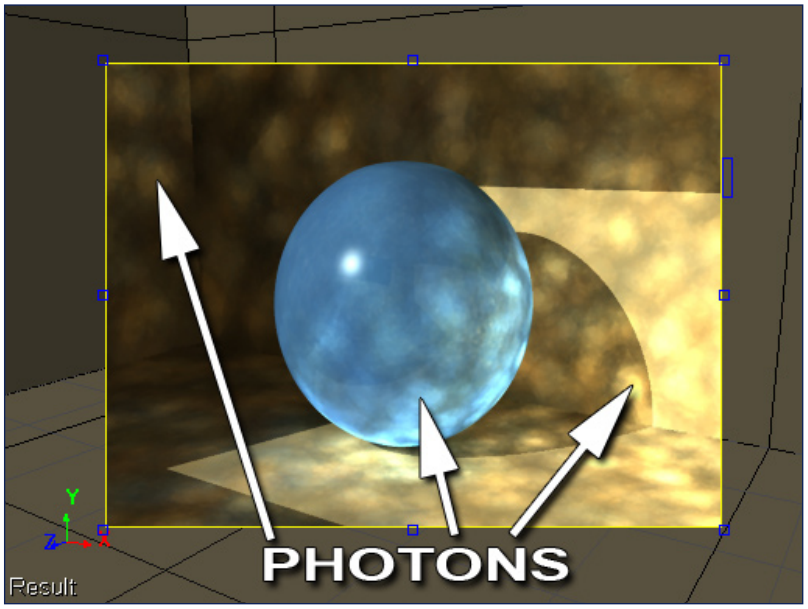
19. In the Render Option page (Photon tab) the Global Illumination option is set to on (Fig.19).

Fig 19



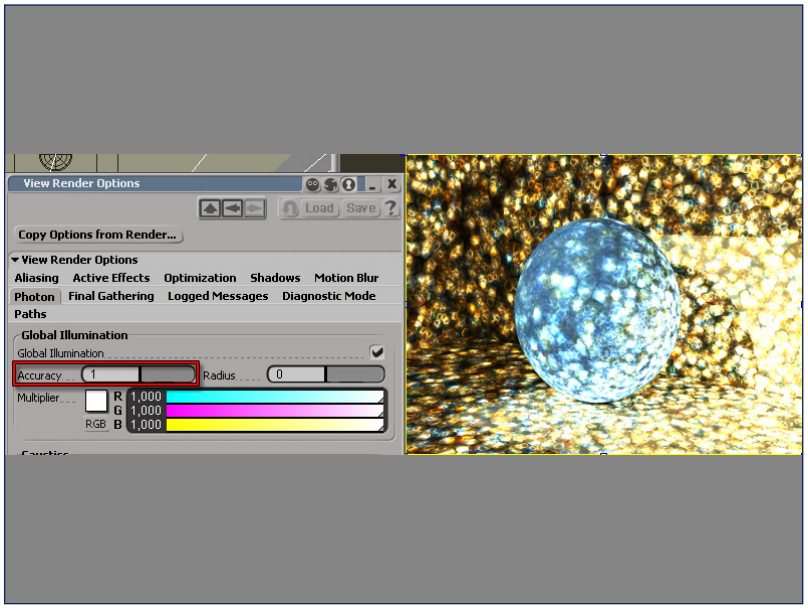
20. If we now render the scene, we'll see something similar to Fig.20. We can clearly see the emitted photons. The light bounces off the objects.

Fig 20



21. If we go back to the Render Option page and set the Accuracy value to 1, we'll see every single photon in the rendering (Fig.21).

Fig 21



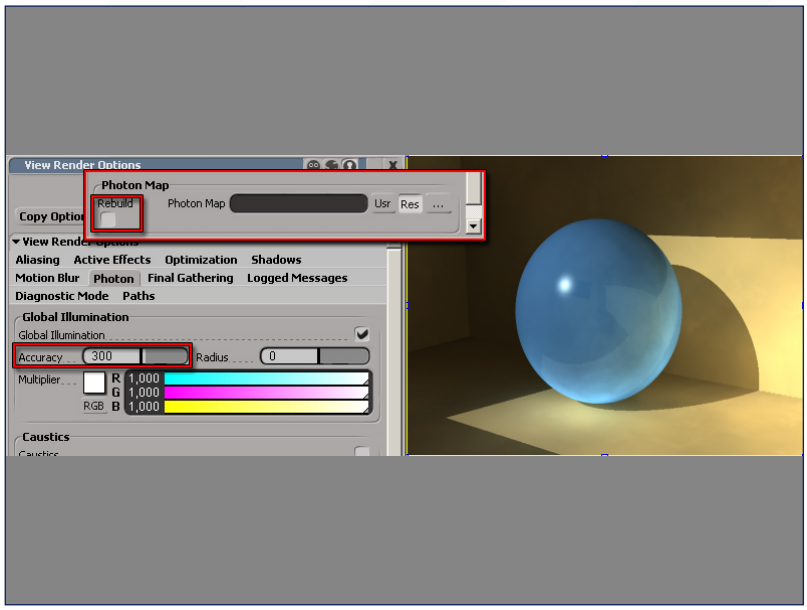


Fig 22

22. As you may have noticed, the render time got slower. We can uncheck the Rebuild option in the Photon Map tab in the Rendering Page (Photon tab) to avoid Mental Ray re-rendering the photon map. It should save a lot of rendering time. Now we can raise up the Accuracy value to something like 300. As you can see in Fig.22 the overall quality gets better and better as we raise the Accuracy value.

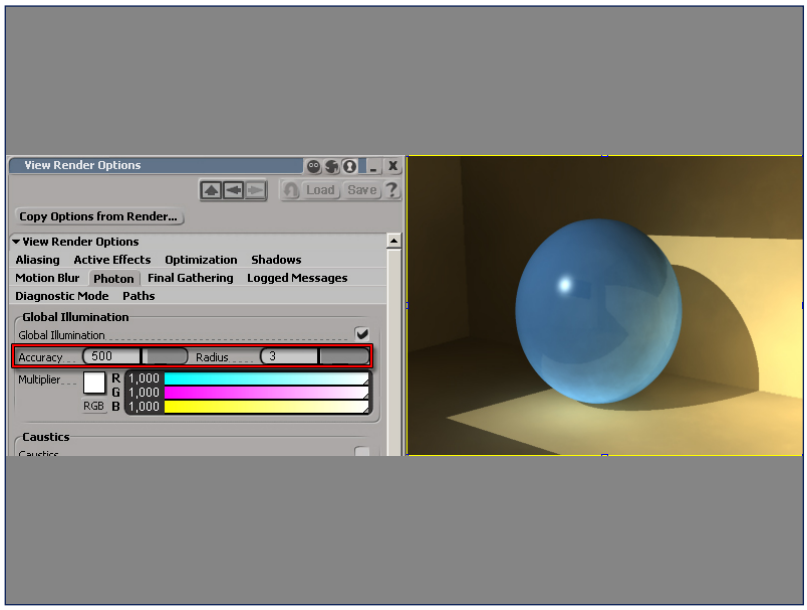


Fig 23

23. We can increase the Accuracy even more, and also play a little with the Radius value (set to 3 in this case). The Radius options blend and blur the photons together. Keep in mind that these values depend totally on your scene scale and on the distance between the subject and the light source, so keep trying and experimenting with them.

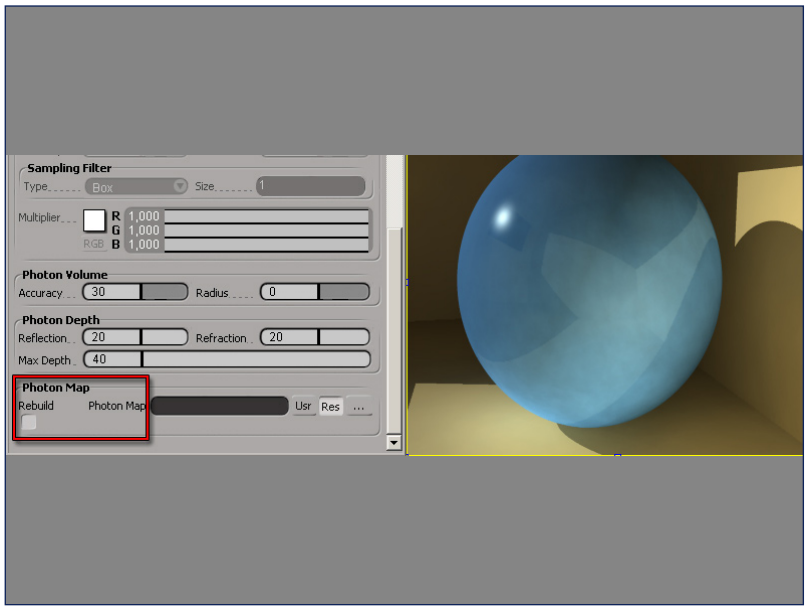
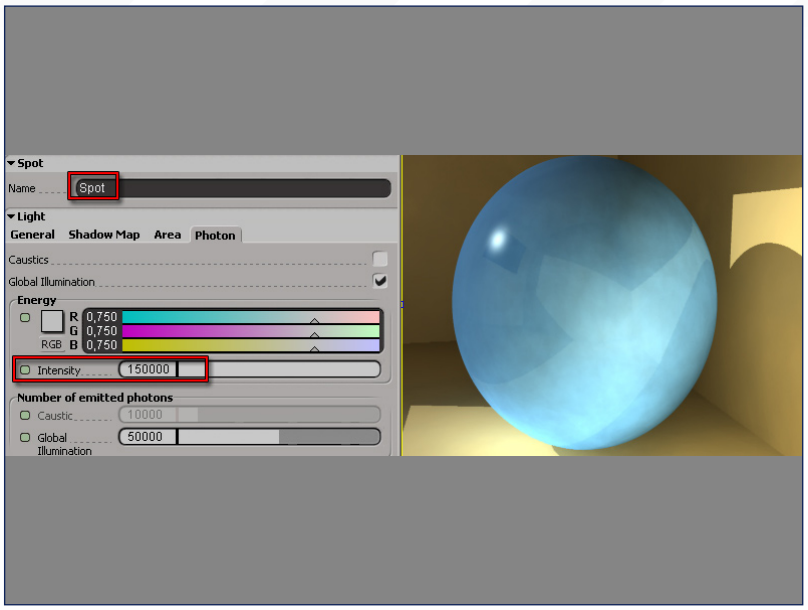


Fig 24

24. We can even change the view and camera position with the Rebuild option turned off: XSI won't re-render the photon map, giving us faster render times (Fig.24).

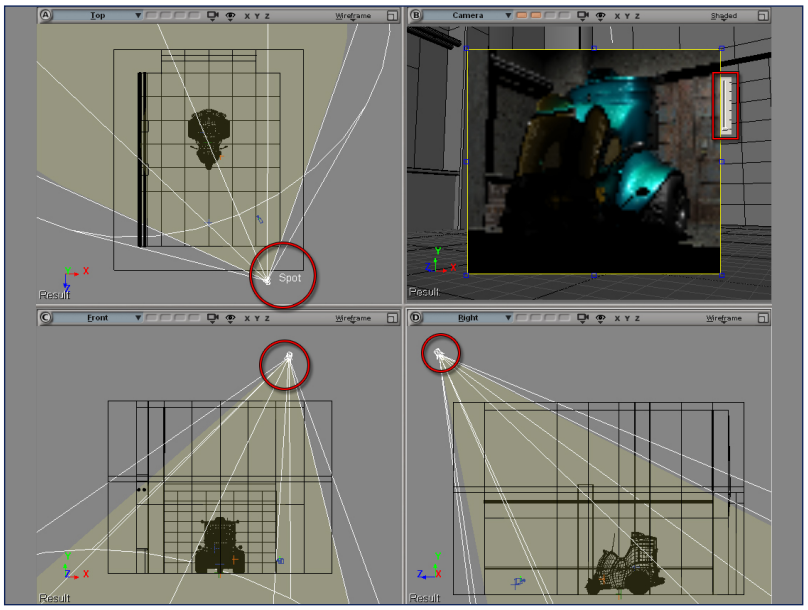
25. Don't forget to turn the Rebuild option on if you are planning to change somehow the intensity or number of photons in the light property page. If you keep Rebuild off, you won't see any changes (Fig.25) until you turn it back on. In fact, XSI needs to recalculate the photon map every time to make significant changes to its values.

Fig 25



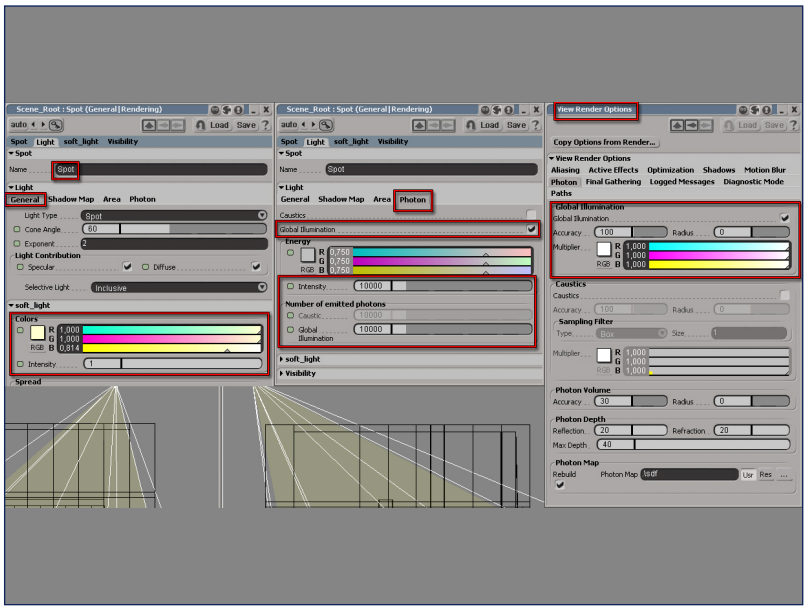
26. Now let's add some GI to the Tuc Tuc scene. Open it and add a Spot light in the same position shown in Fig.26. Make sure that it has a wide range. Create a Render Region and set its quality at the lowest value (it is to speed up test renderings).

Fig 26



27. Open the Spot light property page and set its' colour to bright yellow and its Intensity to 1. Make sure that it casts shadows and the Umbra value is set to 0. Switch to the Photon tab and check the Global Illumination option, as shown in the middle of Fig.27. Set the number of emitted photons to 10.000 and the Intensity to 10.000. Open the Render Options and check the Global Illumination option in the Photon tab. Keep a low value of Accuracy for now (right part of Fig.27). Also, make sure that the Rebuild option in the Photon Map tab is turned on.

Fig 27



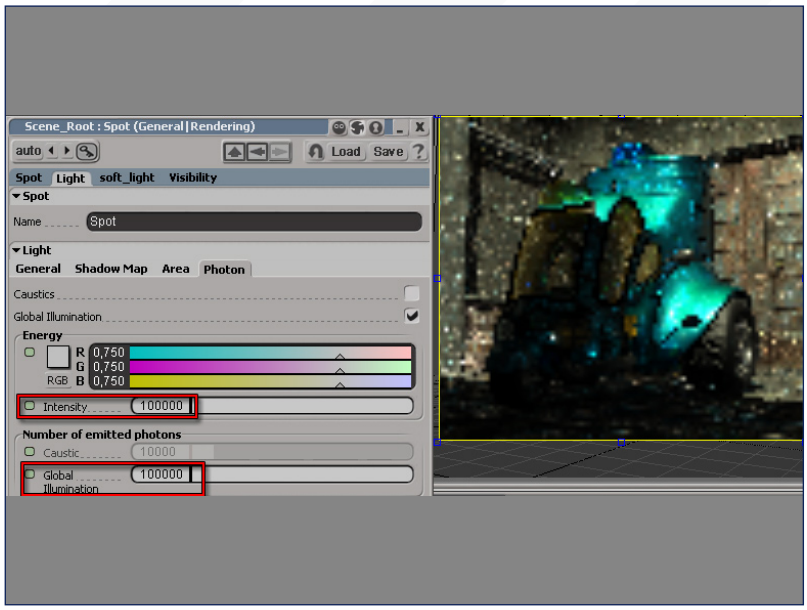


Fig 28

28. Draw a Render Region in the Camera view and play a little with the Intensity and Number of emitted photons in the Spot property page (Fig.28). You should see the Render Region updating the changes everytime you change those values. If you don't, you have probably forgot to turn on the Rebuild option.

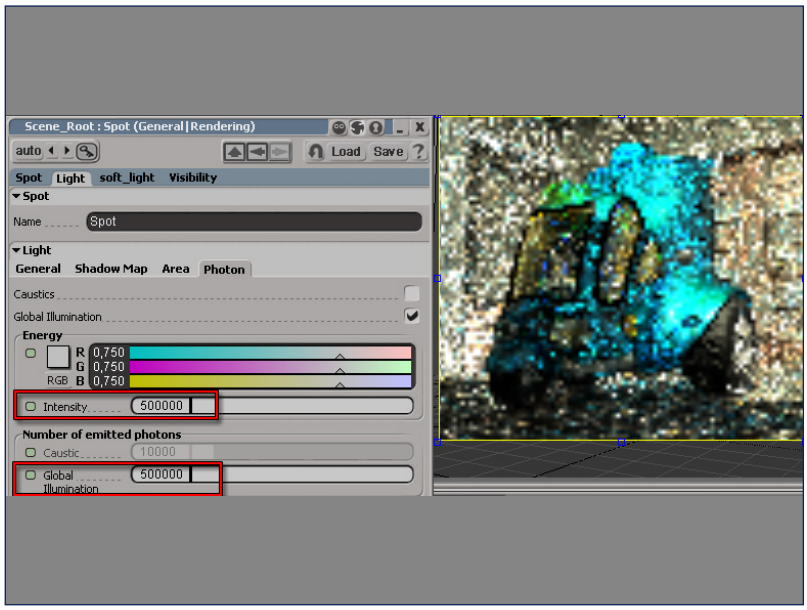


Fig 29

29. Try to increase the Intensity and Emitted Photons until you see a decent number of photons in the scene. You can set the Accuracy to 1 to see every single photon, so to have the right idea of what's happening (Fig.29).

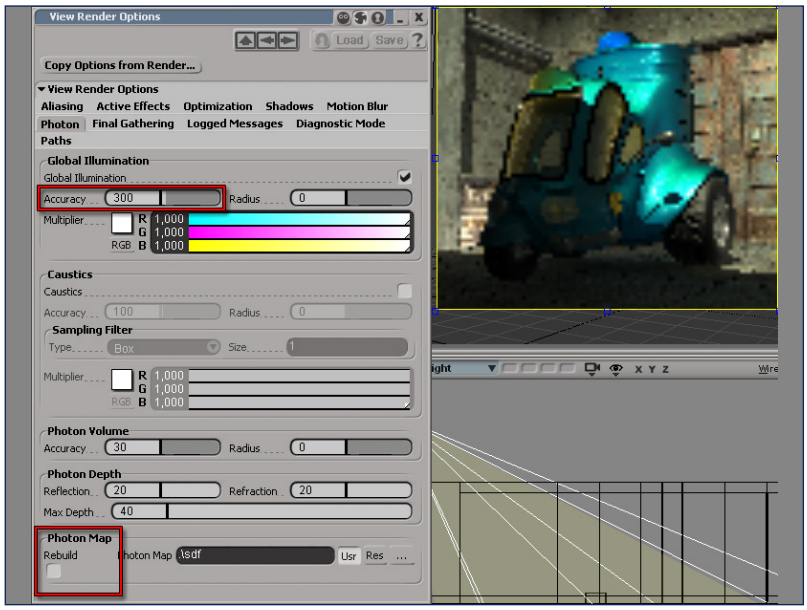
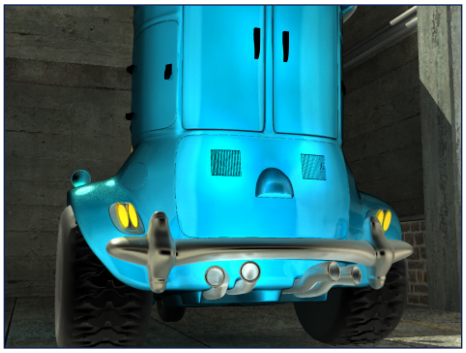
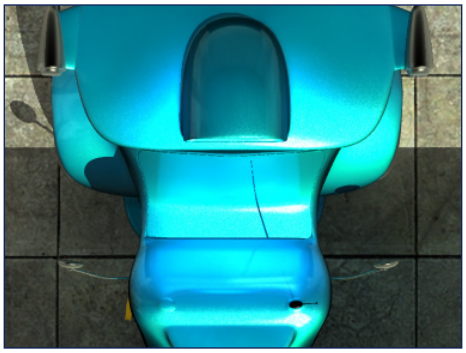


Fig 30

30. Once you reach the number values of Intensity and Photons for your scene, turn off the Rebuild option in the Photon Map tab of the Render Option and increase the value of Accuracy (Fig.30).

Here you can see some renderings from different points of view. Both Intensity and Emitted Photons values had to be raised up to 1.000.000 (as we said before, it totally depends on your scene size and light source position, so keep trying different values until you reach a good compromise. Also, don't forget to play with the Radius value, too. Next month we'll see how to combine another powerful tool, Final Gather, and HDRI maps to create a more realistic lighting for our scene.





TUC-TUC

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